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Photo courtesy Esso Petroleum Company

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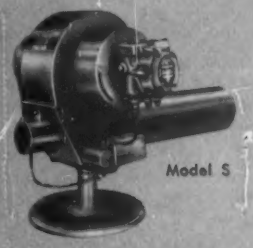
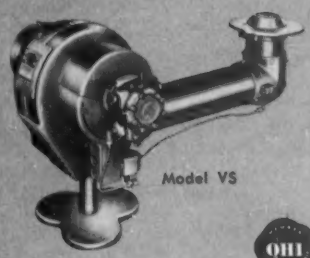
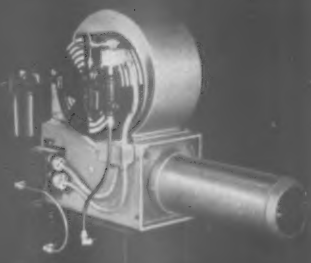


Model S



Model VS

OIL



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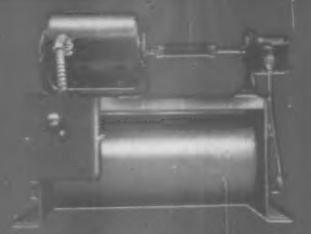

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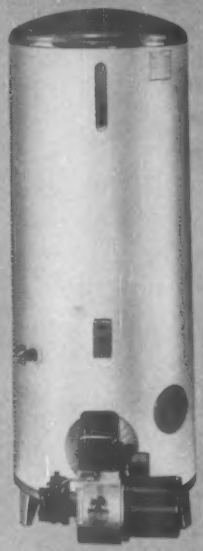

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JANUARY 1961

VOLUME 20 NUMBER 1

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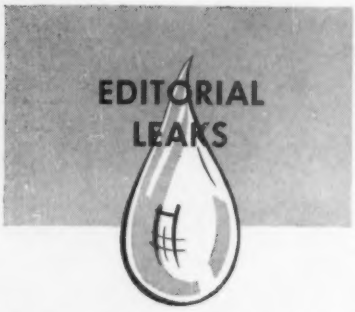
Among other things . . .

The major feature presentation this month appears in the articles starting on pages 49 and 57. First, there are eight pages of our annual study containing preliminary estimates of oilheating installations for 1960, plus information about oilheating in general, with complementary figures on competitive fuels and equipment. The dealer study, beginning on page 57, explores oilheating dealer operations during 1960. Much of the data contained in both articles would not be possible without the fine cooperation of a dedicated group of dealers who supply us with information about their companies to permit a projection for industry averages. To them we express our annual "Thank You."

The Commercial-Industrial Oilburning feature, starting on page 77, presents a new method to estimate fueloil bills from the blueprints before the building starts. The method relates fueloil gallons required to heat loss figures.

Front cover: A petroleum products pipeline crosses a stream in Western Kansas. The photo was made available by Service Pipe Line Co., Tulsa, Oklahoma.



THE JANUARY ISSUE for the past many years has carried quite a statistical summary on oilheating equipment sales, prices, types and applications. It is a reference volume often quoted in government and industry circles.

The pages of facts and figures are not particularly dramatic or exciting to read, but they accomplish a necessary objective. Much of the material on these pages would be impossible to gather if it were not for the very fine help of a good many dealers in each section of the country.

The resulting figures are not in themselves entirely useful to the dealers who make them possible. Their help then is given in a spirit of doing something that benefits the industry as a whole. This is a service on their part quite unusual as industries go, and for which we can only extend our very sincere thanks.

AN ATTRACTIVE BOOKLET published by the American Gas Association is aimed at investors who might help finance that industry's growth. An interesting sentence in the booklet shows that 15% of investments are for production of the fuel, 45% for transmission, 3% for storage, and 35% for local distribution. The missing 2% must be profit.

The significant point here, however, is that the original fuel cost is such a small part of the total investment needs. It again emphasizes how little the producer gets of the industry's dollar which is a situation that offers some disturbing probabilities for the future . . . disturbing for the gas industry, that is.

THERE HAVE BEEN several recent inquiries to the editor about what dealers have had experience in renting or leasing oilburning equipment. Quite often the inquiry is from a market where natural gas is just getting started and offers to rent heating equipment or quite often it could be water heating equipment.

There are a few spots in the country where this is being done by fueloil men, but the fact that it is not at all common would indicate that it has some drawbacks.

A couple of years ago we published a story about Parfield Oils Ltd., Ottawa, Ontario, a firm that had done particularly well in renting equipment to landlords who in turn were able to raise rents more than the monthly outlay.

Perhaps it is a subject that needs more study. On commercial jobs it might be possible to lease oilburning equipment for a short term of years at a price that would practically amortize the full cost and then give the user an option to buy for a few dollars. This is common practice in manufacturing industries for the purchase of expensive plant equipment. Again it is worth investigation.

THE SIOUX FALLS *Argus Leader* had a story about a new high school to be ready by next fall. There are a lot of interesting details in the article but one unique feature of the building is the near absence of windows. But there will be 570 skylights. Not only that, but the building will be heated by 70 natural gas furnaces.

The question comes to mind as to whether a school with that many gas furnaces and that many skylights should provide the students with parachutes.

A VISITOR from Willmar, Minn., oil marketer Gordon Haglund, had a very interesting comment about margins. In his experience, fueloil was considerably more profitable than gasoline although his company sells both in good volume.

It has often been said in that part of the country that good fueloil margins keep the jobbers financially sound in the face of gasoline surpluses and soft pricing.

Haglund says there is more to it than that. The refiners, in his opinion, must do everything possible to sustain and build the fueloil market because if they lose it they will not only lose a lot of combination jobbers, but there will be a tendency for the refiner to make more gasoline to offset the loss of fueloil gallonage. Thus, fueloil is a prop of real significance not only to the marketer, but is just as important to the refiner in having to fortify his investment in manufacturing facilities.

From the right hand drawer . . .

• The LP-Gas Committee of API has criticized oil heat advertising which in turn makes unfriendly remarks about gas as a fuel. The directors of the National Fueloil Council are asking the local campaign managers to take the positive line rather than negative to avoid starting local advertising feuds.

• Delco Appliance Div. engineers predict that in the near future many homes will use thermo-electric heating and cooling. The current flows one way for heating and is reversed for cooling. Westinghouse has also done a lot of work along this line.

• Out of 54 graduates of the oilheating course in New York City vocational schools last June, only two were lost to the industry . . . took jobs somewhere else.

• Esso Education Foundation has granted $9,465,644 to 494 schools since its establishment in 1955. A major project was a three-year grant of $1.5 million to advance the teaching of science and engineering.

• In the October bulletin of the Better Home Heat Council of Hartford is an item recalling the gas industry's criticism of fueloil because its use increases truck traffic in residential streets. Bob Lynch, the imaginative secretary of the council, points out that it is true our trucks are getting bigger and with 10 ton loads are not particularly nimble in traffic nor compact at the curb. He notes that with gas advertising helping to make our trucks stick out like sore thumbs, we had at least better be sure that they are clean, that the drivers are courteous, and that they don't throw ticket carbons on the street.

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GOVERNMENT INFLUENCE ON FUELS

by James M. Collins

WASHINGTON — Approach of the New Kennedy Administration to oil and gas issues is now starting to emerge. The policy will be "go very slowly and conservatively."

This tends to support earlier predictions that there is likely to be no major policy changes advocated by Kennedy or his cabinet members on petroleum issues for some months. Present programs probably will continue much as they are now.

This means, for example, that import controls on crude and products will go on, indefinitely, with no substantial change until well into 1961. In addition, there will be no advocacy of a natural gas bill (to free producers of federal controls), and there is not going to be an attack on the oil-gas percentage depletion allowance. These are the big three issues that have created the most controversy in recent years in Washington.

One change that may be made is to tie oil imports, East of the Rockies, to the demand for crude oil (instead of relating the import level to the product demand, as is now the case). Oil producers have urged such a change and lower-level staff men in the government—who likely will stay on under Kennedy—are sympathetic.

Another change that seems likely will involve the method of allocating import quotas to individual refiners. Up to now, the "historic" crude importers have been granted a minimum percentage of their last "voluntary" import quota (75.5%). This has tended to perpetuate the advantage that these refiners had over other refiners who obtained import quotas for the first time under the mandatory program, based on their refinery runs. It can be expected that the Kennedy Administration will try to treat all refiners—large and small, coastal and inland—alike in allocation of crude imports. This might be done by allocating each refiner a flat percentage of his runs in a base period, or of his capacity. In this way, every refiner would be treated identically, percentage-wise.

Residual import controls, also, can be expected to continue, much as now. Kennedy is highly sympathetic to coal industry demands for a tight rein on foreign fueloil imports. Here again, some polishing may be done, to make the program better—but it will be continued for some time.

The tax allowances granted to oil and gas producers also are slated to get much attention (along with tax provisions affecting all natural resources). But, there will be no basic change recommended for the next year or more in the 27.5% depletion allowances.

Fuels Study Is Big Issue

All of these issues—imports, taxes, and gas price control—are linked up with another bigger one, that overshadows all the individual issues. This involves a study of a "national fuels policy."

Coal men want this study, believing it will lead to controls of "dump" sales of natural gas to industrial consumers, and even tighter controls on oil imports. Kennedy promised coal men, flatly, during the West Virginia primary last May that he would establish such a policy study—as one of his first acts in the White House.

Paving the way for Kennedy to act will be a report from a special "Depressed Areas Committee," which Kennedy set up recently, headed by Senator Douglas (D, Ill.). The report of this committee will be filed by the end of December with Kennedy. One of its recommendations undoubtedly will be that a full-scale study be made of fuels and energy in the U. S. One subcommittee of Douglas' main committee, in fact, has been given the assignment of looking into "coal and mineral research and national fuels policy." This subcommittee and five others met here Dec. 14-16 behind closed doors. Afterwards Douglas said a final report would go to Kennedy by January 1 including "specific recommendations" for action by the new president through executive orders and recommendations to Congress.

The idea of a "national fuels policy" as it has been urged by coal men, has created intense opposition from oil men in all branches, led mostly by the API. Oil men have charged that what coal really has in mind is "end use control" of fuels, a philosophy which should be repugnant to those who believe in free enterprise.

But, in view of the inevitability of such a study (which is not harmful—by itself), oil men may take a second look, decide to cooperate in this study so that it can be aimed in the right direction and away from proposal for more federal controls on oil, gas, coal, etc. If oil men, on the other hand, just throw rocks at this study, they may find themselves out in the cold when it comes time to formulate policy recommendations—and the policies advocated under these conditions might be very detrimental to oil and gas.

Regulatory Agencies Eyed

Meanwhile, Kennedy is reported having some difficulty in lining up good men to take posts with the regulatory agencies, like Federal Power, Federal Trade, and others. At FPC, he can name two men in January, and a third next June (replacing Commissioner Kline, whose term is up then). Former Commissioner William Connole, a political "independent" whom Ike would not reappoint last year, has had feelers to go back to FPC, possibly as chairman. If he is appointed by Kennedy, the tone of the FPC will be more angled to consumers.

'Time Bombs' are Being Set

The Republicans, leaving office in a few weeks, are busy planting some time bombs, that could blow up in the Democrats' faces. Some are small ones; some big ones. The oil import problem is one (where actions by the Republicans now could cause trouble for the new Administration). Another involves the reappointment of the National Petroleum Council, issuance of tough rules on oil-gas leasing on public lands. Steps may be taken, however, to defuse these before the Democrats take over in January.

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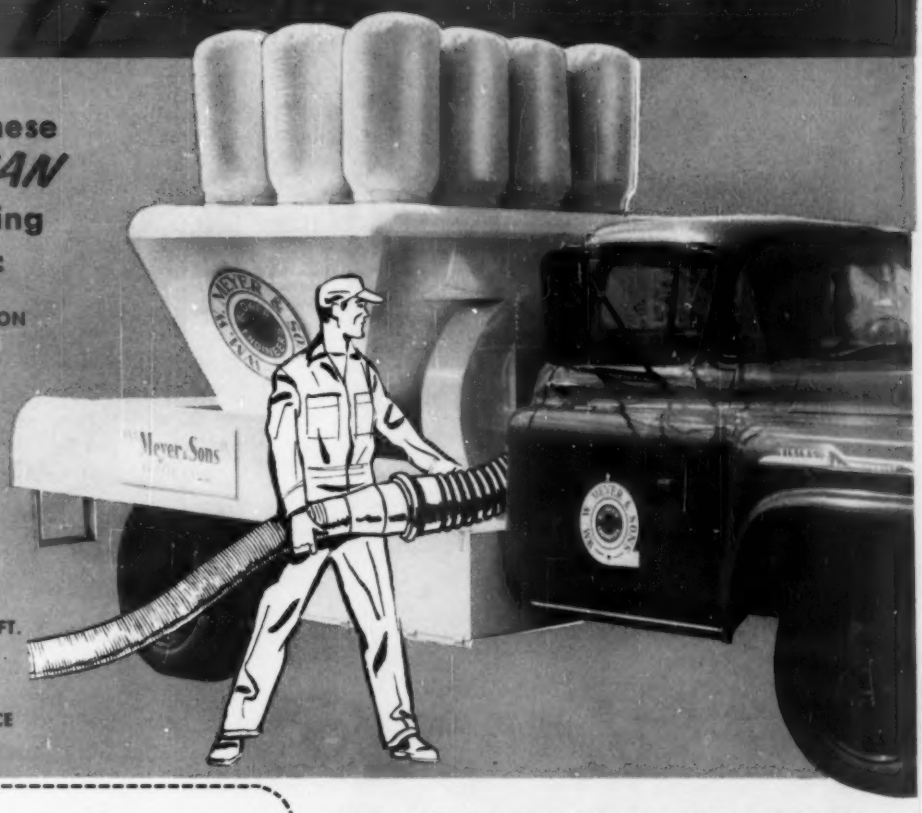

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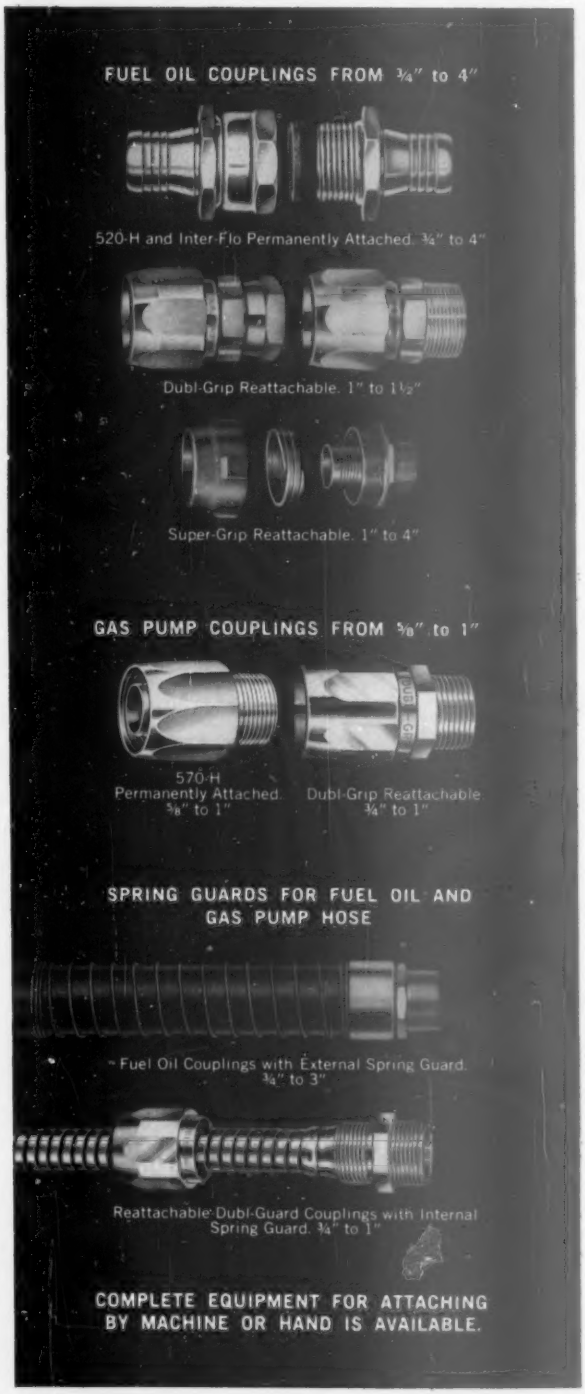
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Monthly oilheating Trends

NOVEMBER OILHEATING installations are estimated at 45,903 domestic oilburners and units. This shows a 26% drop from last year when 62,031 jobs went in. It also follows the pattern of the year in which installations ran well ahead of factory shipments until the normal key months arrived when the comparisons were reversed.

For eleven months, the estimated total is 501,134 which is 15% below 587,533 in the same period of 1959. The eleven month figures are divided by types of application: new homes, 142,316; compared to last year's 188,596; replacements of old oilheating, 193,033 vs. 193,301; and conversions from other fuels, 165,785 as against 205,636 in 1959.

The drop in new homes that got oilheating was 24.5% from last year. Permit figures covering the first eight months of this year showed that new home building was off 21.8% in the country as a whole. In the Northeastern sections of the country—New England and Mid-Atlantic areas—new homes were down 19.4% in the eight months while in the North Central states they were off 26.3%. They did relatively better in the South and West where other fuels predominate.

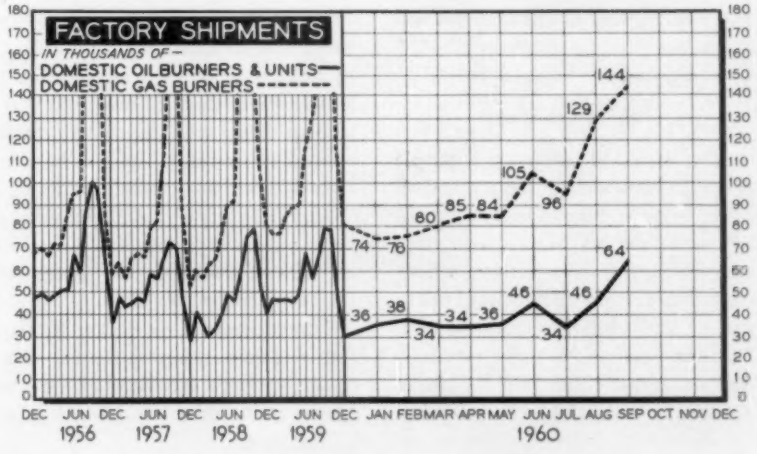
In November, oilheating dealers sold approximately 1,250 central airconditioning jobs. They also sold an estimated 1,818 water heaters powered by separate burners.

Oilheating Stocks: At the end of November, dealers were holding approximately 42,259 domestic burners and units compared with 53,968 a month earlier and with 62,196 on the same date last year. The current stocks were divided: separate burners, 20,115; boiler-burner units, 7,099; and furnace-burner units, 15,045.

Factory stocks at the end of November, the latest information, were 51,436 compared to 43,949 last year.

Tank Stocks: On November 30 the stocks of customer tanks in dealer hands were estimated at 33,398 compared with 36,114 the previous month and with 30,167 at the same time last year.

The tank stocks were divided: 220-330 gal. size, 30,558; sizes 550 to 675 gal., 1,704; and sizes 1,000 gal. and larger, 1,136.



Shipments of Oilburners and Units

(Including Exports)
Adjusted to include manufacturers other than those reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	SEPTEMBER			NINE MONTHS		
	1960	*1959*	*Percent Change*	*1960*	*1959*	*Percent Change*
Separate Burners	42,452	53,484	—20.6	253,266	344,026	—26.4
Boiler Burners	6,041	6,196	— 2.5	31,010	35,047	—11.5
Furnace Burners	15,721	19,267	—18.4	83,223	112,003	—25.7
All Domestic	64,214	78,947	—18.7	367,499	491,076	—25.2
Commercial	3,799	4,502	—15.6	28,437	30,953	— 8.1
Total	68,013	83,449	—18.5	395,936	522,029	—24.2

November Minimum Retail Prices Key Dealers

	Nov. Avg.	*Oct. Avg.*
Separate Burners	$312	$313
Boiler Burners	736	735
Furnace Burners	611	614

Price Index: Separate Burners 1947-49 is 100%

WHOLESALE			
November	95.6	Six months ago	94.5
October	94.5	Year ago	94.5

RETAIL			
November	91.0	Six months ago	90.8
October	90.8	Year ago	91.9

How much Effect has oil Price on Sales of heating Equipment?

THIS IS THE TIME of year when oil prices generally go up at least moderately; not so much to take advantage of the heating situation, but more often because attempts to improve prices wouldn't stick. There has been quite a surplus of product during the past couple of years with prices running generally lower than what might be considered a normal market.

Gas prices have been going up in the period that oil was down. So we asked the group this month whether they believed that oil price has had any real effect on getting new business.

Nationwide, only 19% of the dealers feel that this has been a help. The range of answers to this question had a low point in the Midwest of 17% and a high in New England with 33%.

Public Opinion

Next we asked the group if people generally know enough about actual oil prices to cause them to have any opinion on the subject. The composite answer is that 31% of the dealers believe the public pretty well knows oil prices against 69% believing they do not. The low point on this was the Mid-Atlantic states where only 9% think the public is familiar with oil price.

Some of the dealers commented on how many people actually know the cost of oil: "John Public is economy minded; a good comparison is the compact car vs. the higher priced vehicles." . . . "Most people choose gas not because of cost, but because they have been sold by a well organized advertising program." . . .

"People don't actually know the price of oil, but when it is high they have that impression and vice versa." "I believe that advertising is more important than price." . . . "With the constant juggling of prices, even we don't always know what it is." . . . "Prompt, clean service is more important; 90% of the oil customers do not know the price of No. 2 oil." . . .

"At least 75% of the people in this area accept the prevailing price without shopping around." . . . "Cost is not a factor—it's 'modern fuel,' 'cleanliness,' and service." . . . "People believe what gas salesmen tell them."

Two-fifths of the reporting dealers make a special effort to tell their customers and prospects that oil prices today are bargain rates. They do this by direct mail, special company advertising and through salesmen's calls.

With gas prices generally rising while fueloil has been lower, the question naturally arises as to how much effect this has had on heating installations for new home builders. We find 13% of the reporting dealers saying that this has definitely affected builder attitudes with a high point on this being New England at 22%.

Three-fourths of the dealers say that they feel safe in saying that in view of the world oil surplus, fueloil prices can be expected to stay low for quite a long time.

The dealers were almost unanimous in believing that if we could equalize the cost of oilheating equipment with gas and electric heat, we could expect a very much larger share of new automatic heating installations. Only 5% voted against this opinion.

Recognizing that to equalize equipment cost would have to depend on some measure of subsidy several suggestions were offered.

Dealer suggestions for some form of subsidy included these: "I endorse the West Coast plan; it appears to be working well." . . . "We need greater advertising, a tank subsidy and a service reserve." . . .

"Instead—good equipment reasonably priced." . . . "Need to sell equipment at cost; quality for lowest operating cost." . . . "Should offer to install tank complete with oil line to heating unit at no charge." . . .

"$100 per installation." . . . "Further development of an induced draft conversion burner." . . . "Tack on a half cent per gallon over tank wagon price and give free service." . . .

"Loan tanks." . . . "The only way to handle the problem is to subsidize the builders cost differential." . . . "Need a tank subsidy program." . . . "Should have better burners and units." . . .

"Cash payment direct to builder of around $100." . . . "Make the gas industry pay 50% of production costs instead of 10%." . . . "I do not believe in any form of subsidy." . . . "Our present program of $82.50 unit is helping, but is not high enough for complete success." . . .

One special form of subsidy mentioned is the simple matter of selling oilheating jobs below their cost. The dealers estimate that about 29% of oilheating equipment today is sold below complete cost to bring the prices closer to the other fuel equipment.

The final question of this series asked for a guess on how much higher gas prices would have to go before speculative builders would hesitate to install gas equipment. In other words, where is the upset point that would cause builders to consider the fuel cost more important than equipment saving as a factor in selling the homes.

The composite opinion is that gas prices would have to go up another 30% to stop the builders on this point. There was remarkable similarity on this point: New England said that gas would have to go up 24%; Mid-Atlantic up 35%; Midwest up 26% and Pacific Northwest up 25%.

Some general comments on this subject were these: "Our best chance to retain this market is through the de-

velopment of oilburners." . . . "A vigorous advertising campaign by our association over the past four years stressing 'safety' and 'cost' has resulted in oil outselling gas in a ratio of three to one; (Massachusetts) actual costs are not mentioned because of the rise and fall of the oil market." . . .

"We must get manufacturers to develop a new concept in burning fuel-oil." . . . "Gas is being pushed by electric heat in this area" (Springfield, Mass.) . . . "Oil and gas prices are about the same here; it is a matter of personal preference." . . . "Service costs on equipment should be eliminated." . . .

Superior Equipment

"The oilburning equipment we handle is good enough so we don't have to take a back seat for any gas job."

"Builders by and large do not care what the cost of gas is; they are only interested in the installation cost." . . . "When we get conversions from gas it is not because of the price of the fuel—customers get dissatisfied with poor and sloppy service; we have lost only three customers to gas in the past four years and we are getting one of these back." . . .

"The price of gas is immaterial to the builder—the future home owner pays for it, not the builder." . . . "Our need is still for an economical conversion unit to convert the gas units to oilfired units." . . .

"Project builders are being offered subsidies not only on heating equipment, but also on water heaters, cooking stoves and refrigerators if they install gas heat." . . . "The only reason for builders not to use gas equipment would be because of a general complaint from the buying public." . . .

"Builders do not care what gas costs; they sell the house and that's it. It is the subsidies the gas companies give them that kill us—we cannot compete against the price of the units plus the fringe benefits the gas companies throw in." . . .

"When the gas company stops buying accounts from the builders, and when we, the people, stop subsidizing the utilities who can advertise extensively without fear of going bankrupt, then private industry may compete."

More than Half of Burners face Replacement in Sixties

ALMOST 59% of the oilburners in use today are slated for replacement during the decade of the Sixties, unless a way is found to keep them operating longer than has been historically typical.

In a series of continuing studies by FUELOIL & OIL HEAT it has been found that in the past the average or typical oilburner was replaced at 17 year age.

Economists for Esso Standard Div. came up with the same figure when they had their field men interview all former users of fueloil that had switched to gas heat. The average age of the oil equipment had been 17 years. The burner may not be worn out beyond repair at that age, but for one reason or another the change is made at that average point in time.

In the years from 1944 to 1953, inclusive, 5,768,988 oilburners were installed. Those will become 17 years old in the ten-year period just ahead. The number represents 58.7% of all oilburners now operating, estimated at 9,824,590 as of December 31, 1960.

We won't save all of those replacements for oil—the industry never has. In the past five years the losses to other fuels have represented 39% of our take-outs. We have saved 61%.

Extending the 39% loss ratio for ten years ahead, as shown in the chart, we see that in the year 1970 the number of old jobs coming out will be 808 thousand, the estimated losses to other fuels will be 315 thousand, or net oilheating replacements saved for us will be 493 thousand.

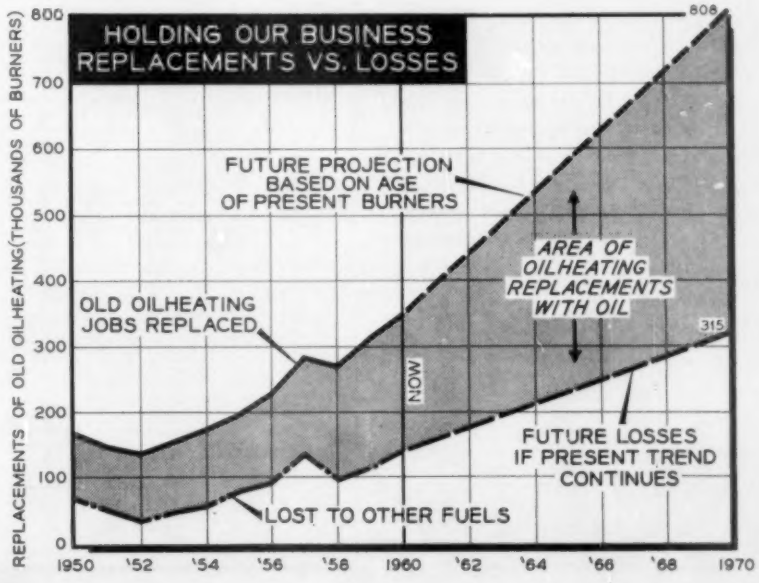
The estimated annual average for the 10 years will be 577 thousand changes of which we'll save 352 thousand and lose to others approximately 225 thousand.

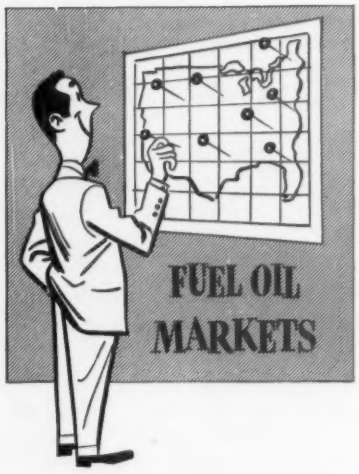
Promotion helps

It is important to recall that in the past five years the industry has had a growing number of active promotional campaigns for oil heat. Without those our losses would have been worse. With larger promotion, perhaps we can improve our ratio of oil replacements to losses.

For oil refiners the outlook is very critical. We have got to first get new users to offset the growing losses before we can show a net growth in demand for oil.

There's no point in being pessimistic but the industry needs awakening, for sure.





THE PRICES in the table as you may have noticed are based on the 10th of the month because it takes a few days to gather them before we send this to the printer. The December 10 prices showed only three small changes. Chicago and Milwaukee were up a quarter cent, tank car, and St. Louis was down .4¢ at that level.

However, by press date there were advances announced on the East Coast by Esso with industry as a whole probably going up right away. The increase was .8¢ a gallon at both levels from Baltimore north, and .5¢ south of there. In the area from Providence to Portland, Me., the tank car price went up .9¢ and at Albany 1.0¢.

Severe December storms over most of the heavy oilburning areas will change the degree-day table considerably by the end of the month. To November 30 the East was 9.7% warmer than normal and 10.9% warmer than last year. To the same date, the Midwest was 8.1% warmer than normal, and 22.6% warmer than last year. For the entire East of the Rockies area, there were 9.2% fewer than normal degree days, and 14.6% fewer than last year.

Distillate Fueloils

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	Dec. 9 1960	*Dec. 11 1959*
East Coast	72,189	68,407
Midwest	53,061	44,226
Gulf Coast	25,417	31,478
Total	150,667	144,111

*American Petroleum Institute.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of December 10, 1960

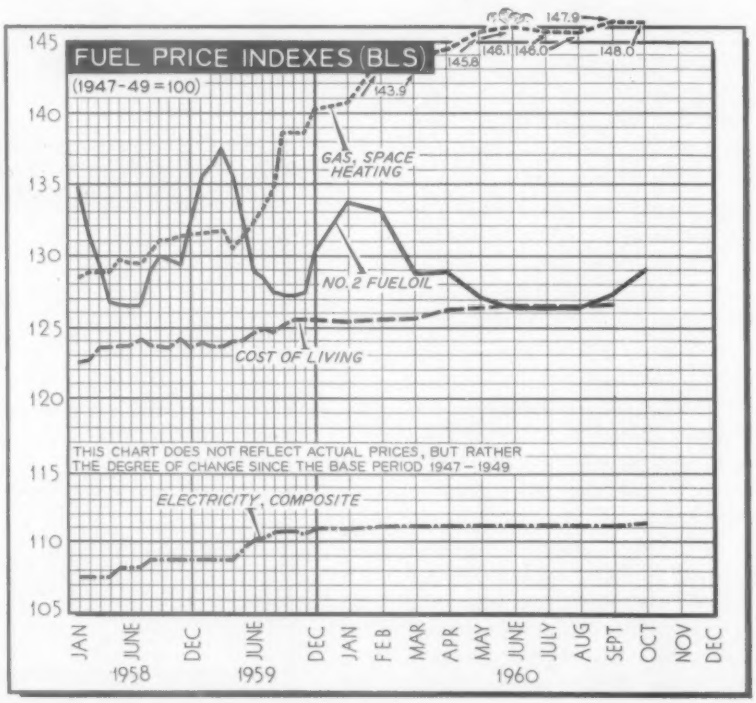
	Tank Cart	*Tank Wagon*
Portland, Me.	9.3	14.2
Boston	9.2	13.7
Providence	9.2	13.7
Hartford	9.55	13.6
New Haven	9.2	13.7
Syracuse	10.0	14.1
Albany	9.2	13.4
New York	9.2	13.6
Newark	9.2	13.4
Philadelphia	9.2	13.6
Baltimore	9.2	13.5
Wilmington, N. C.	9.8	13.4
Washington	9.8	13.8
Richmond	9.85	13.5
Charleston, S. C.	9.8	13.5
Chicago	10.25*	14.6
Detroit	10.50*	15.1
Cleveland	11.7*	15.2
Minneapolis	10.429	15.2
St. Louis (A)	10.00*	14.9
Indianapolis	10.64*	15.4
Milwaukee	10.485*	14.4
Des Moines	11.1	14.8
San Francisco	12.05*	14.8
Portland, Ore.	10.825*	15.1
Seattle	10.6*	15.2
Spokane	12.2*	16.8
Los Angeles	11.55	14.3

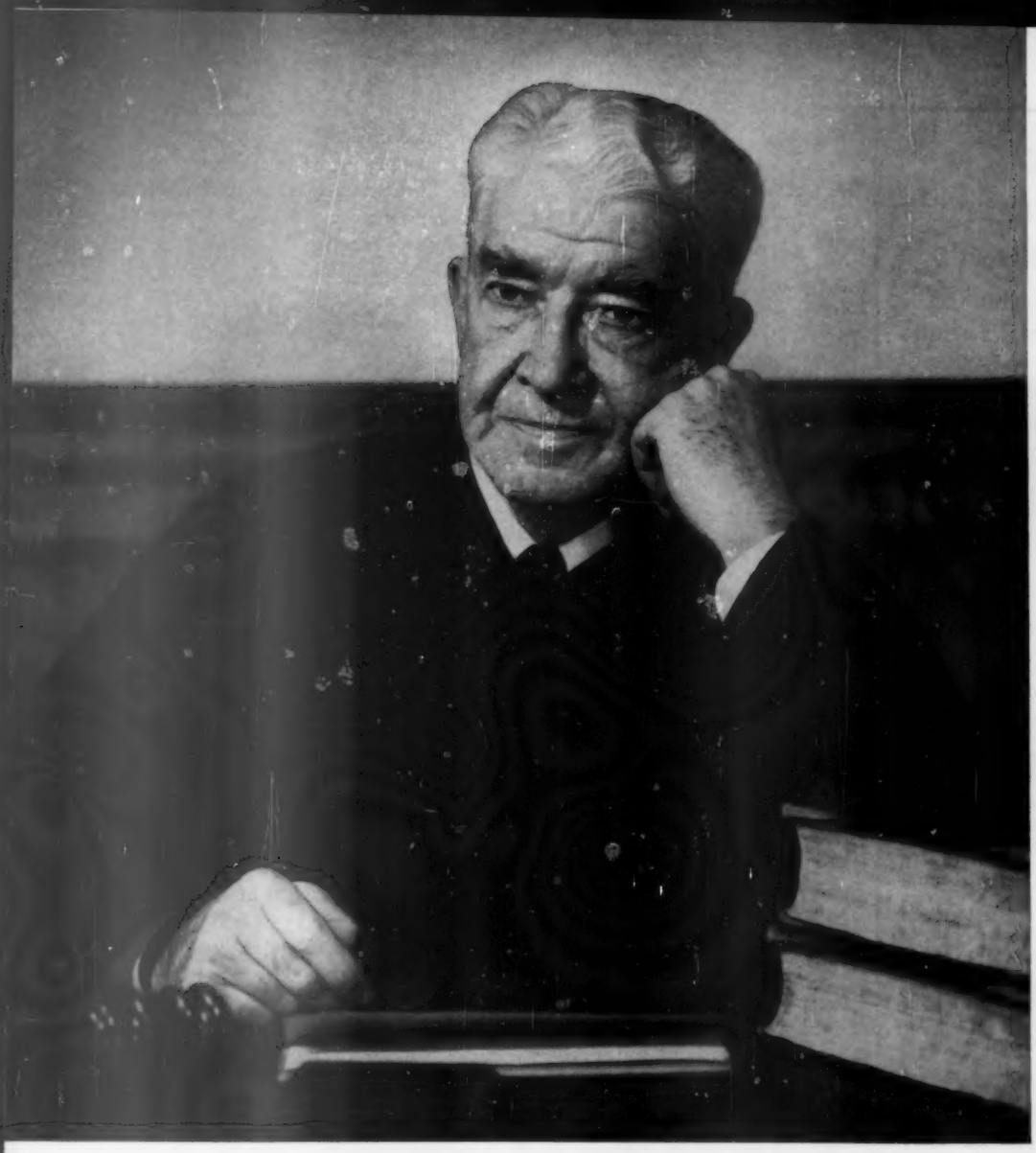
Tank wagon prices shown are for maximum one-time delivery discounts.
*Delivered.
(A.) Subject to voluntary allowance of 0.4¢ gal. in Missouri.
†Tank car prices are typically those paid by fueloil distributors as a purchase price. On the West Coast, this term more often indicates a retail sale to a large commercial account. This usually is a half cent below tank wagon price.

Degree Day Table

	—SEASON TO DATE— Sept. 1 to Nov. 30 Norm.	1960	Percent Change*
Albany AP	1362	1277	— 6.3
Atlanta AP	511	441	— 13.7
Baltimore CO	725	603	— 16.8
Boston AP	1010	911	— 9.8
Buffalo AP	1308	1181	— 9.7
Charlotte, N.C. AP	592	504	— 14.9
Chicago AP	1205	984	— 18.4
Cincinnati CO	831	807	— 2.9
Cleveland AP	1114	1165	+ 4.6
Dallas AP	352	282	— 19.9
Denver AP	1316	1245	— 5.4
Des Moines AP	1252	1136	— 9.3
Detroit AP	1224	1057	— 13.7
Grand Rapids AP	1428	1191	— 16.6
Hartford AP	1184	1221	+ 3.1
Helena AP	1936	1748	— 9.7
Houston AP	188	121	— 35.6
Indianapolis AP	1090	1018	— 6.6
Kansas City AP	905	715	— 21.0
Los Angeles CO	198	157	— 20.7
Louisville AP	862	846	— 1.9
Milwaukee AP	1393	1402	+ 0.6
Minneapolis AP	1576	1648	+ 4.6
New Orleans CO	146	86	— 41.1
New York CO	863	750	— 13.1
Omaha AP	1202	1112	— 7.5
Philadelphia CO	768	662	— 13.8
Pittsburgh CO	966	842	— 12.8
Portland, Me. AP	1539	1509	— 2.0
Portland, Ore. CO	899	830	— 7.7
Providence AP	1160	1072	— 7.6
Roanoke, Va. AP	826	741	— 10.3
St. Louis AP	878	771	— 12.2
Salt Lake City AP	1240	1165	— 6.1
San Francisco CO	475	586	+ 23.4
Sault Ste. Marie AP	1942	1726	— 11.1
Seattle CO	1003	980	— 2.3
Toledo AP	1245	1174	— 5.7
Washington AP	793	708	— 10.7

*Compared with normal.





HARTOL

MAKE UP YOUR MIND, JUDGE...

1961 is going to be a "year of decision" for many companies, large and small. If you're aiming to turn decision into opportunity and opportunity into success, you'll be wise to take a good look at the new, expanding HARTOL organization. In addition to being the "best source" on the Eastern seaboard for top grade petroleum products, today's HARTOL packs the vigor and punch of the fastest growing marketer in the field. Most experienced! Most skilled! Most interested in serving you! Make up your mind on the basis of *all* the facts. Call your HARTOL representative and find out what he can do for you right now.

- Largest independent marketer of gasoline and fuel oil on the Eastern seaboard. 17 modern terminals.
- First in experience . . . cooperation with independent jobbers and dealers . . . ability to serve.

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Oil Burner Transformers

. . . . . Custom Built to your Specifications

Dongan ignition transformers are standard on leading oil burners; approved by U.L. and C.S.A.; available in many sizes, domestic and industrial. Features include high voltage windings; cool centers; no interference; custom design. Just send us a blueprint of the type of mounting you need!

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You'll like the convenience of Dongan's new test unit. Included: high voltage potential transformer; voltmeter; pair of high tension test leads; pair of primary leads. For bench or field work, easily portable — weighs just 15 pounds. *Write for prices.*

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Names in the News

Kalman Steiner, owner and manager of the Baltimore office of the Central Fuel Co. of Maryland, Inc., died on December 5 after suffering a stroke. Steiner had joined Central Fuel three years ago after 11 years with the Hoffberger Co., Baltimore. He was well-known in the industry for his five technical books, plus contributions to trade journals both on the domestic as well as commercial-industrial phases of oil-burning. His most recent publication was the third edition of his book, "Oil Burners." Steiner was a native of New York who graduated from Illinois Technological Institute and shortly thereafter joined Midwest Heat Co., Chicago. He moved to Baltimore after the War to join Hoffberger and also function privately as a consulting engineer. Steiner combined his industry functions with activities in engineering and technical societies. He is survived by his wife, two sons, two brothers, three sisters and four grandchildren.

J. L. Huss has been appointed manager of customer distribution service, Industrial Products Group, Crane Co., Chicago. He has been with the company since 1950 and will now head the new department established to render complete customer order service and control of inventory at stock service centers.

C. Les Newhart, Sarasota, Fla.; *Lawrence J. Studnicky, Jr.,* Mercantville, N. J.; and *Robert L. Young,* Los Angeles, Calif., have received the president's award from H. P. Mueller, Jr., president, Mueller Climatrol, Milwaukee, Wis. The awards are presented each year to the firm's three outstanding sales representatives. Newhart was the leading man, followed by Studnicky and Young.

James F. Donnelly, Jr., has been appointed manager, advertising and sales promotion, Permaglas Division, A. O. Smith Corp., Kankakee, Ill. He joined the parent company in 1952, moved to the Permaglas Division in 1956, and became supervisor of sales promotion in 1959.

R. O. Beauregard has been named sales manager, heating oil, for the Boston Marketing Division, Gulf Oil Corp. He has been marketer of home heating and farm markets since 1958 and will be responsible for the marketing of all fueloils throughout Maine, New Hampshire, Rhode Island and Massachusetts east of the Berkshire area, eastern Vermont and most of Connecticut.

Frank J. Nunlist, vice-president, operations, Worthington Corp., has been elected to the board of directors. He joined the company when L. J. Muller Furnace Co. was acquired in 1954 and subsequently became executive vice president of Worthington's Mueller Climatrol Division. He was elected a group vice-president in 1958.

Harry E. Beckley has been named manager of the new plant in La-Grange, Ind., operated by Motor Wheel, Lansing, Mich. He had served as director of transportation and as factory manager, Consumer Products Division, at the company's headquarters. He now will be responsible for the manufacture of Duo-Therm space heaters, mobile home furnaces and airconditioners.

Pierce V. Burke has been named sales manager, Timken Silen Automatic Products, a position newly created by Iron Fireman Manufacturing Co., Cleveland, O. For the past four years Burke has served Carrier Corp. as sales manager-residential heating equipment, Unitary Equipment Division. He also had been associated with Crane Co. at the Syracuse, N. Y., factory branch.

"At Last...you can assure your homeowners DOUBLE-HUMIDITY with the

SUPER-6000"

Now with 10 Thirs-Tee Evaporator Plates
...at No Increase in Cost!

"DOUBLE-HUMIDITY and Trouble-Free Operation mean BIG PROFITS FOR YOU"

At last...a humidifier with capacity enough to satisfy ALL of your homeowners. Fool-proof and trouble-free, the SUPER-6000 Humidifier is easily installed during regular service calls. Makes you additional profits on new-home and replacement furnace sales.

Over 8,000,000 homes *need* the Viking "SUPER-6000" Humidifier. Your profit potential is the greatest it's ever been. When you service a furnace without a humidifier, point out to the homeowner the dangers of too-low humidity... and recommend the "SUPER-6000".

EASILY INSTALLED IN MINUTES!

OUTSTANDING FEATURES:

- Lifetime nylon valve. Rigidly tested and proved for positive shut-off action with any water pressure.
- Lifetime guaranteed glass pan. Resists any kind of water or chemical deterioration.
- Sturdy Pan support of corrosion resistant steel.
- Greater plate capacity. Comes with 10 plates, capable of holding 15.

When ordering Evaporator Plates insist on the All NEW Thirs-Tee Plates of Magnasil

- **Non-Breakable**
- **Universal Size**

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Manufacturers for 25 years of:
HUMIDIFIERS • FURNACE BLOWERS • ATTIC FANS
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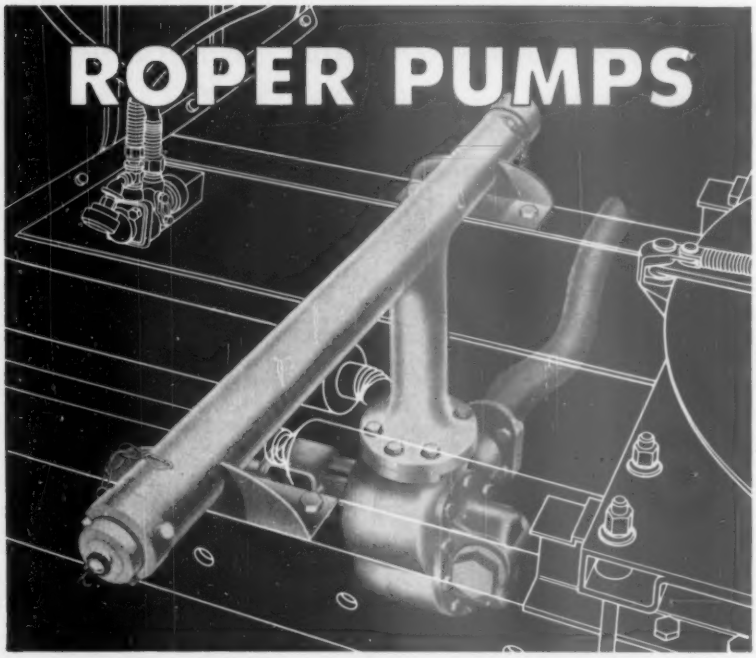


new delivery convenience and speed with SUSPENDED MOUNTING

MODEL 3604 • 125 GPM AT 545 RPM • PRESSURES TO 100 PSI

Roper Series 3600 tank truck pump in #4 size is now available in new suspended mounting. When mounted, pump is located directly behind cab, suspended from steel T-shaped piping arrangement cradled in bracket on top of tractor chassis frame. Suspended pump mounting makes installation and removal fast and easy. Combination of slip joint power take-off drive allows quick exchange of pump for transfer of different liquid. While one pump is being cleaned, another can be installed, so that no delivery time is lost. This interchanging of pumps is often less expensive . . . often much safer . . . than cleaning pumps in installed position.

- **ALL-WELDED CONSTRUCTION** eliminates leak problems found in tubing or threaded joints.
- **TAPERED DISCHARGE LINE** and bottom drain plug makes drainage easier, more complete.
- **ENDS OF CROSSBAR** provide hose connections for curb or street side mounting.
- **LIGHTWEIGHT CONSTRUCTION** needs no channel brackets or other supports.

For information about your specific pump needs, contact your nearest Roper dealer

ROPER HYDRAULICS, INC.

Dependable pumps since 1857

COMMERCE, GEORGIA

Andrew L. Schuyler has been promoted to boiler product manager, Bryant Manufacturing Co., Indianapolis, Ind. With the company since 1956 he has been an application sales engineer since 1959.

Two new regional sales managers and their territories are *Joseph Rosenson,* who will serve distributors in Alabama, North and South Carolina, Tennessee, Mississippi, Florida and Georgia with headquarters in Atlanta; and *Martin J. Boyle,* whose sales district will include New York, Pennsylvania, Connecticut, Virginia, West Virginia and the District of Columbia with offices in Philadelphia.

David E. Morgan has been made vice-president, contract sales, Warren Webster & Co., Inc., Camden, N. J. He has been director of research and development for the manufacturer of heating and airconditioning equipment.

Dan Graves has been appointed product service manager, Ohio Furnace Co., Columbus, O. He has been in the heating and airconditioning field for 17 years. Other company appointments concern *Don Riley* now district sales manager covering five Ohio counties, and *James White* a new member of the sales force. He previously had spent 11 years with Armstrong Furnace Co.

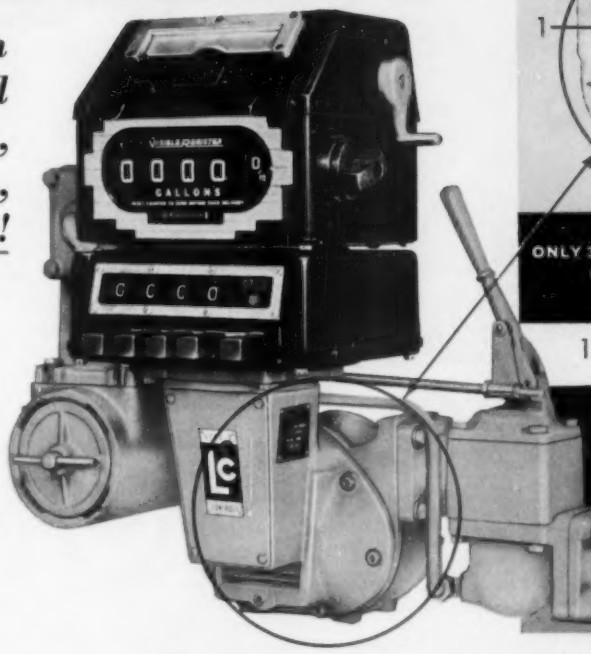
Marcus A. Markley has been named general sales manager, Sun Oil Co., Philadelphia, in charge of industrial, wholesale, fueloil and foreign sales and the sale of liquefied petroleum gas.

John M. Furin has been appointed sales manager, Home Comfort Products Division, The Lau Blower Co., Dayton, O. This Sales division will include the company's line of builder products including furnace humidifiers. Before his appointment, Furin was assistant sales manager for Viking Air Products, Cleveland.

never before such

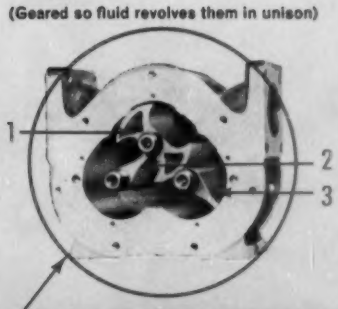
METER SIMPLICITY

...such small size, stamina, accuracy!

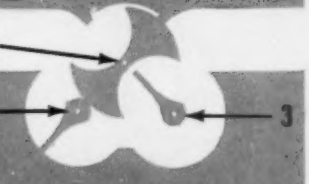


MODEL M-7-N-X—100 gpm, corrosion-resistant LC Meter with pre-set printer, counter, pre-set valve, strainer, air eliminator, and air-actuated check valve. Needs no external piping or connections. As illustrated: length, flange-to-flange, 22¾"; overall height, 21¾"; width, 15 ⅜"; weight, 85 lbs. 2" or 1¼" USPT companion flanges.

ONLY
3 MOVING
PARTS
(Geared so fluid revolves them in unison)



ONLY 3 EVER-CHANGING SEAL LINES
(A new low in fluid slippage)



SIMPLE SEAL-SURFACE FINISHING
(Parallel surfaces—3 radii centerpoints)

NO METAL-TO-METAL CONTACTS
(Rotation directions keep seal lines clean)

Flow May Be in Either Direction

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Developed for exacting Air Force requirements yet priced to be your best meter "buy"

Hundreds of positive-displacement LC Meters are serving the Air Force world-wide—for the very same reasons they're fast growing favorites with all types of petroleum products: *performance!* But that's not all. Low back pressure makes pumps last longer. Lighter weight cuts hauling costs. Maximum flow on gasoline needs only 2 psi, and this rapid transfer in gravity dumping saves thousands of $$$$ in truck-time each year. No churning, no squeezing, outstanding for fuel oil. Durability? No M-7 rotor or bearing ever replaced. Find out how really good and reliable meters can be . . .

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GIVES YOU ALL THREE—

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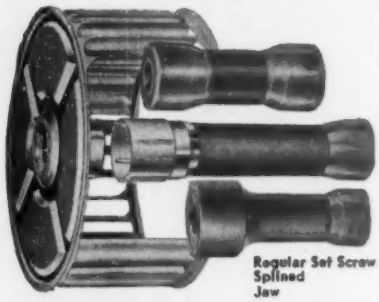

Regular Set Screw Splined Jaw

Only Guardian gives you these features—

- **ROLL SPINNING—Exclusive process joins all three components at one time—while in final operating alignment.**
- **BRAIDED RUBBER—Ground to absolute true concentricity. Furnished in BUNA-N TUBE and NEOPRENE COVER. Lateral and angular alignment requirements fully met.**
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2. OIL TANK VALVES

No. 1910 B

Check These Superior Guardian Features—

- **Metal-to-metal seating.**
- **Highest quality machined bar stock.**
- **Greater wall and body strength.**
- **Fusible linkage available in all designs.**
- **Valve designs for every type of installation.**

3. QUIK JOINT

Steel compression fittings for connecting steel pipe.

Patent No. 2,685,460

- **Eliminates threading of pipe.**
- **Decreases cathodic corrosion and electrolysis.**
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MICHIGAN CITY, INDIANA

Humble reorganizes company Operations

HUMBLE OIL & Refining Co. has undertaken a long-range reorganization of the consolidated company's operation. The main feature is the establishment of four operating regions for exploration, production and marketing with their boundaries drawn according to geographic lines.

Each of the regions will be headed by a regional vice-president assisted by a general manager. Present operating divisions of the company, together with their officers and boards of management, will cease to exist when the entire new program is completed.

General headquarters for Humble will remain in Houston; regional offices are in New York City for Esso Standard, Eastern Region; in Tulsa for the Central Region; Houston for the Southwest Region; New Orleans for the Southeast Region. Territorial separation will be made by dividing the regions into areas and the areas into districts.

Then there will be three functional divisions—Manufacturing, Marine and Enjay Chemical. Humble Pipe Line will continue operations as a separate corporation.

The Esso Standard, Eastern Region, will replace the Esso Standard Division in northeastern United States. The region, headed by William W. Bryan as vice-president and Alex A. Diffey as general manager will include Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, District of Columbia.

Bryan **Diffey** **Goodykoontz**

In the Southeast Region Russell H. Venn will head it as vice-president and Carl G. Herrington as general manager.

Offices for the Southwest Region will be in Houston. Ray H. Horton is vice-president there, James H. Galloway, general manager.

The Tulsa office will be headed by John W. Brice, vice-president and Robert O. Goodykoontz, general manager.

Hay dried by oil Unit at Farm in Sebec, Maine

A NEWSPAPER STORY in the *Piscataquis Observer,* Dover-Foxcroft, Me., reported an oilfired hay drying system being used at the Varnum Farm in Sebec, Me.

The photograph shows six wagon loads of baled hay being dried. In the top center of the building there are two oilburners which provide heat for six wagons on each side. Heated air

Every hour of every day of every week of the year, the Hess refinery laboratory tests the quality of Platinumized WHITE-HEAT. It's this quality watch... and quality control... that increases the profits of independent home heating oil dealers like yourself. Because you service what you sell – Hess makes sure that every single gallon of Platinumized WHITE-HEAT delivered to you contains less trouble-causing sulphur and carbon residue. This is how Hess makes sure you'll have fewer profit-eating service calls . . . and can expect increased profits in your service operation. It's another good reason why it makes good sense to switch to Hess and . . . . . .

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All Delavan oil burner nozzles are Bi-Metal Construction, brass body with stainless steel in those parts where wear is a factor. The perfect combination for fine performance.
Be sure to try the Delavan type A hollow cone nozzle and type B solid cone and, of course, the all purpose type W . . . all with Delavan Sintered Filters.
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is forced through ducts by fans. A trap door opens in the top of each wagon; a vinyl hood fastens tightly to the sides of the wagon.

The drier forces heated air through the baled hay, pushing the moisture out the bottom of the slatted wagon. The wagons, each with approximately 2½ tons capacity, are loaded with self-propelled tumble type balers.

Farmer Varnum reports that he dried 250 tons of second crop hay with the oilfired system and feels that without the dryer it would not have been possible to harvest a large portion of his second crop. Also, he expects that the dryer will enable him to improve the quality of his roughage which should result in less grain, more milk per cow and increased profits.

See 18% of 1961 New Homes using Central Heating-Cooling

NEARLY ONE-FIFTH of the nation's new homes constructed in 1961 will be equipped with central heating and cooling systems, Paul H. Rutherford, general manager of the Delco Appliance Div., General Motors, predicted in New York December 7. He noted that this forecast compares with approximately 16% of newly built homes that were so equipped during 1960.

"On the basis of current evidence," Mr. Rutherford said, "our marketing and research men forecast the number of new housing starts during 1961 at approximately 1,230,000. We expect that some 18%, or 221,400, of these homes will have heating-cooling systems installed during construction."

John H. Tighe, Delco's appliance sales manager, described a new "Key Dealer Plan" under which the factory will sell directly to a limited number of high caliber dealers in each market, with dealers now handling Delco Appliance products being given first consideration in qualifying for the plan.

To expedite delivery of new equipment and service parts to dealers, Delco has established new regional warehouses in Cleveland, Pittsburgh, Atlanta, Orlando, New Orleans and Los Angeles, in addition to those previously operated in Chicago, Charlotte, Arlington, Va., and Portland, Ore.

ALLIS-CHALMERS COMPANY

BETHLEHEM STEEL COMPANY

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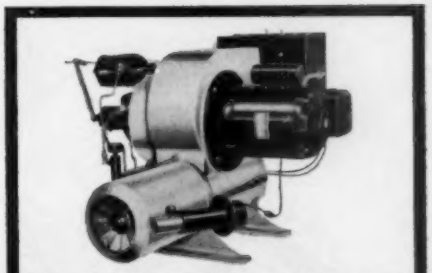

W. P. GILBERT COMPANY of Irvington, New Jersey, works closely with consulting engineers in New Jersey and neighboring Pennsylvania. Such cooperation has resulted in over 1600 HEV-E-OIL installations throughout the area. Shown hard at work on one of these projects is Mr. Wallace Gilbert, president of the firm, and Ed Martin and Bob Peles, sales engineers.

Across the board . . .

top consulting engineers recommend HEV-E-OIL burners for major projects

YEAR AFTER YEAR leading consulting engineers continue to specify HEV-E-OIL burners in their plans for stores, factories, schools and churches. Just a few famous-name users of HEV-E-OIL burners are listed above.

Across-the-board acceptance of HEV-E-OIL burners is natural. For only HEV-E-OIL commercial-industrial burners assure efficient, economical operation — perfect fire control regardless of weather or draft conditions. Low-pressure air atomization is the big secret of success — accurately metered oil and air for the best in economical performance.

If you own, specify, install or service burners, HEV-E-OIL burners will make your job easier and more profitable. Ten sizes, 1 to 150 gph, adapt to all standard heating boilers. For free bulletin, write Dept. FO-11.

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Over 500 fact-filled displays, staffed by top executives and key technical personnel, will provide you with information concerning more efficient methods of installation, maintenance techniques, use of related equipment, and anything they know from which you can profit.

Keep up with new developments for domestic, commercial and industrial applications. *Plan your visit now!*

15th International Heating & Air-Conditioning Exposition

Auspices ASHRAE

International Amphitheatre • Chicago, Illinois
Feb. 13-16, 1961

Management: INTERNATIONAL EXPOSITION COMPANY • 480 Lexington Ave., New York 17, N. Y.

OHI organizes Plans for April Convention

PRELIMINARY PLANS for the 39th annual convention of the Oil-Heat Institute of America, Inc., are being formulated. The affair takes place April 23 to 27, 1961 at the Statler Hilton, Washington, D. C.

Francis Schuster, Oil-Heat Institute of Indianapolis president, member of the OHI Distribution Division board of directors and executive vice-president, Troy Oil Co., Indianapolis, has been named chairman of the convention.

The tentative program opens on Sunday, April 23 when various committee meetings are scheduled. On Monday, April 24 the retiring Distribution Division board of directors will meet, as will the retiring Institute board; also the annual meetings of all Divisions and the annual meeting of the Institute itself will take place, as well as the Commercial-Industrial Section meeting. And, finally on this day the new board of directors, as well as some committees, will meet.

The Technical Division takes over on Tuesday, April 25 with a symposium and on Wednesday and Thursday mornings, April 26 and 27, the schedule calls for round table dealer-management conferences, clinics and discussions on a number of topics dealing with heating oil and oilheating equipment.

Also being considered are conferences during the week for commercial-industrial oilburner people and special sessions for bulk plants operators.

A convention luncheon on April 26 will feature a prominent speaker.

The Institute has distributed hotel reservation blanks and convention registration forms to facilitate arrangements for those who plan to attend.

February Exposition to show Heating and Airconditioning

FEBRUARY 13 to 16, 1961 are the dates of the 15th International Heating and Air-Conditioning Exposition; the International Amphitheatre in Chicago is the place where the show will be held.

Admission is limited to trade per-

For more than 65 years... your YARDSTICK for the Finest

For 1961, Moncrief gives you the most complete and competitive line in more than 65 years of high calibre Furnaces and Air Conditioning Units . . . priced to make Moncrief Dealers successful.

Moncrief prices for 1961 are lower, more competitive than ever . . . adjusted to help you surpass your competition . . . lower without penalizing Moncrief excellence. Instead, Moncrief's reduced prices are made possible by increased manufacturing efficiency.

If you expect 1961 to be as competitive as 1960, so does Moncrief. And Moncrief has anticipated your needs with both lower prices and sensational new products.

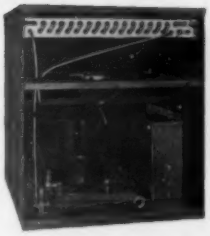
Wherever you are located, Moncrief offers a complete selection of the type and size of units you need to fulfill the demands of your market.

With Moncrief, the capacity to offer excellence at the price of cheap construction is your advantage. You can enjoy this competitive power without the expense of a big inventory by calling your Moncrief Wholesaler, now.

MORE . . . BETTER GAS FIRED UNITS FOR 1961

. . . FOR THE BEST OF THE NEWEST AT NEW LOW PRICES

New 2 or 3 Ton Self-Contained Unit . . . Condenser Intake and Discharge from same end . . . Conditioning Air Intake and Discharge from same end



New Air Cooled Condensing Unit in 3 and 5 Ton sizes . . . Low-Velocity Top Discharge . . . Outstanding Ratings

NEW AIR COOLED SUMMER AIR CONDITIONERS

Easier installation and top performance with new 2 Ton (23,000 Btu/Hr) and 3 Ton (35,000 Btu/Hr) Moncrief Self-Contained Units, having condenser air intake and discharge on the same end and conditioned air intake and discharge on opposite end. Flush-to-wall indoor installation or unsheltered outdoor installation.

A full line of 2, 3, 4 and 5 Ton Moncrief Condensing Units with low-velocity, top discharge from a propeller fan; rugged outdoor construction; high capacities. Other 3 and 5 Ton Units have a centrifugal blower.

. . . FOR EXCELLENCE AT THE PRICE OF CHEAP CONSTRUCTION

Interior of Furnace with Burner exposed . . . Round Combustion Chamber, Large Radiator, Large Capacity Blower.

Furnace with Burner Concealed . . . Plenum Evaporator Coil added . . . High Air Handling Capacity.

NEW OIL FIRED WINTER AIR CONDITIONERS

A new series of Moncrief Oil Fired Winter Air Conditioning Units — 84,000, 95,000 and 112,000 Btu output — with high air handling capacities, modern styling and the proven reliability of the heavy-gauge Moncrief Heat Exchanger.

Quiet, trouble-free performance with round combustion chamber, refractory firebox, rectangular radiator and long flue travel. Extra-Large Blower permits Cooling to be added with standard equipment blower.

. . . FOR EASY, CONVENIENT BUYING FROM WHOLESALE SUPPLIERS

Interior of Furnace with Duct Evaporator Coil added, showing Blower Chamber and Electric Element Cartridges.

Electric Furnace in Vertical Position. Same Unit can be Installed as Upflow, Counterflow or Horizontal Furnace.

NEW ELECTRIC WINTER AIR CONDITIONERS

New Moncrief Electric Furnaces are designed for installation with ducts and registers and have every advantage for complete Winter Air Conditioning — heating; ventilating; filtration; humidification and fresh air intake, if desired.

Same unit can be installed as Upflow, Horizontal or Counterflow. Large-capacity blower makes addition of Summer Cooling easy.

Four sizes — 60,000, 80,000, 100,000 or 120,000 Btu output (17.4, 23.2, 29.0 or 34.8 Kilowatts).

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HEATING AND AIR CONDITIONING UNITS

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FURNACE PIPE AND FITTINGS

(1) 2, 3, 4, 5 H.P. Air Cooled Condensing Units
(2) Plenum Evaporator,
(3) Duct Evaporator,
(4) Counterflow Evaporator, (5) Blower-Evaporator Unit

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ONE SOURCE FOR ALL MODELS AND MAKES
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FREE CATALOG . . . 36 pages, listing approx. 12,000 units, is available from your local wholesaler.
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sonnel, including architects, builders, dealers, representatives of manufacturers, etc.; each visitor is admitted without charge after completing a registration card. The Exposition is not open to the public and is open from 12 noon to 10:00 P.M. daily, Monday through Thursday, February 13 to 16.

The Exposition is sponsored by the American Society of Heating, Refrigerating and Air-Conditioning Engineers in conjunction with its national meeting.

Home Builders Show to be largest ever

THE LARGEST convention and exposition will begin on January 29 when the National Association of Home Builders opens its 17th annual convention and exposition in Chicago's new exposition center, McCormick Place.

More than 500 manufacturers have reserved space for the five-day show and it is expected that all of the 137,000 sq. ft. of exhibit area available will be assigned before the show opens. This will be an increase of more than 50% over any previous year.

Advance estimates predict that 35,000 or more builders, architects and other qualified visitors will attend the convention and exposition. Among the high points of the convention sessions will be a discussion of the economic outlook for 1961, a session devoted to remodeling, demonstrations of new building techniques; how the administration will look at housing is also a possible topic.

The spaciousness of McCormick Place enables the NAHB for the first time this year to house the convention and exposition in the same building.

Construction Contracts rise again in October

SHARP GAINS in contracts for commercial buildings and highways boosted total construction contracts in October to a new all-time high record for the month, according to the F. W. Dodge Corp., New York 18, N. Y.

The Dodge index of construction, after adjustment for normal seasonal factors, rose to 294 in October (1947-49 equals 100), the highest level since April 1959. The index in September 1960 stood at 271 and in August at 276.

However, contracts for residential buildings in October were down 8% from October 1959, totalling $1,390,402 in October 1960 compared with $1,514,953 which was reported a year before.

Although still below a year ago, residential building contracts in recent months have edged closer to last year's levels. The October drop of 8% compares with a 14% decline for the first ten months of 1960 as a whole; the total was $13,006,031 last year compared with a total of $15,077,614 in 1959.

The number of dwelling units represented by the October residential contracts totalled 97,121, down 10%; contracts for apartments rose 26%, while single family homes remained below 1959 levels.

Dr. George Cline Smith, Dodge vice-president, pointed out that the contracts awarded in October signify high levels of construction activity for many months to come. Since construction is the nation's largest fabricating industry, Smith interprets this as an indication that this activity will help to insure that the current business dip will be mild and of short duration.

Pennsylvania H. S. to offer service, installation Course

THE VOCATIONAL DEPARTMENT of the Liberty High School, Bethlehem, Pa., has established a 30-week, 180-hour course to train oil heat service and installation men. It may be used also as a refresher course by persons already working in the field.

The school is in need of operating equipment as well as the cutaway type. Anyone interested in supplying equipment to be used in the school should contact Lloyd B. Kehler, Director of Vocational Education, Vocational Department, Liberty High School, 240 East Elizabeth Ave., Bethlehem, Pa.

Put in YOUR Thumb

Little Jack Horner
Sat in a corner
Looking for something real
(good, that is)
He put in his thumbs
And pulled out THREE plums
Then said, "General's the BEST DEAL!"

General Filters' products are plums in the hot air heating business. They can be installed and "renewed" on regular service calls—"pulling out plums" of extra profits without increased selling effort or travel time. Have your service car supplied at all times and help yourself to these plums.

Generals "ALL FEATURES" FUEL OIL FILTERS

Performance proved over the years. Life-time iron and steel construction. Corrosion resistant plastic coating. Wool felt elements bonded to center mesh core traps dirt and moisture. Two sizes fit ALL plants.

Generals "MOISTURE-MATIC" HUMIDIFIER

Simple, safe, compact, automatic, it really "minds its own business." Life-time neoprene diaphragm. No float to stick, clog, or rust. Corrosion-proof pan. Chrome-plated valve. One-year guarantee on parts. Installs in 30 minutes.

Generals "CLEAN RIGHT" SOOT REMOVER

Works in every type heating plant —oil, wood, gas, coal. Saves up to 25% in heating costs. Fast acting and safe—no flash, no flare, no intense heat. Won't harm burner parts. Light, powdery—can be sprayed or "spooned". Use on every call!

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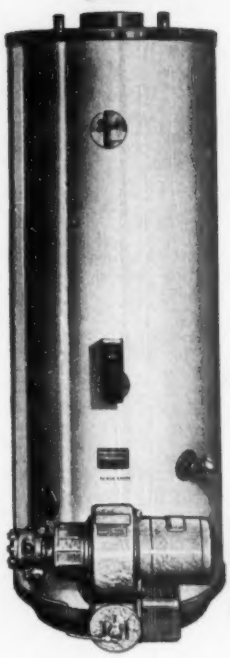

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Made in large commercial sizes for schools, hotels, hospitals and public buildings. Approved for 180 degree outlet water.
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LETTERS

HOWDEN COAL AND OIL CO.
Savannah, Ga.

Editor:

Regarding your "Study of the Month" about coal conversions (FUEL-OIL & OIL HEAT, December 1960, page 12), I am taking the liberty of writing my views on the subject.

Due to climate and other factors our territory is in a great many ways quite different from markets served by fuel-oil companies operating in the North.

Way back in the early 20's when we first started in business, we had a great many logical conversions from coal to oil. Over the last 35 years practically 100% of these conversions have been completed. In fact, we do not know of anyone in this territory who still burns coal in a central heating plant. We might add that during the last five years when natural gas came into the territory, we have lost probably 5% of our central heating business to gas; this reflects the great amount of money spent by local gas people on advertising and their unfounded claims of economy of gas over fueloil.

In the beginning of our operations we were the people who sold the equipment and created the fueloil business. Now we find that the builders have turned away from us because they can save $150 if they install a gas furnace instead of an oil furnace. Further, the builders back up their home sales to the public on the claims the gas company makes of greater economy. The same thing holds true for space heater installations. Consequently, our sales to new people and to conversions are low. Most of our sales are for modernizing our present satisfied oil-using customers.

We are doing everything that we can to correct the general public's false conception of gas economy. Also, we point out the safety facts about oil-burning and call attention to the public's wide range of buying choices. After all, there is only one gas utility here, but there are at least 30 different sources from which homeowners can purchase fueloil.

The best hope we have to regain new home installations and to convert back some of our customers who changed to gas, is the development of new oilburning equipment which will restore us to the proper price range as far as installation cost is concerned.

This certainly is a subject about which all of us members of the Chatham County Fuel Oil Dealers Association are deeply concerned.

F. D. HOWDEN

U. S. DEPARTMENT OF COMMERCE
BUREAU OF FOREIGN COMMERCE
Washington 25, D. C.

Editor:

Many thanks for sending us 25 copies of your publication for use in our commercial libraries.

These are used most effectively by our Trade Mission members and our embassies and consular posts in bringing to the attention of foreign businessmen the services and products available from United States firms. The magazines, too, are read avidly by the general public and are forceful demonstrations of the advancements in the industrial and economic life of our nation obtained through our free enterprise system.

The commercial libraries are very much in demand overseas. Your cooperation is certainly appreciated.

E. PAUL HAWK
Director, Trade Missions Program
Office of Trade Promotion

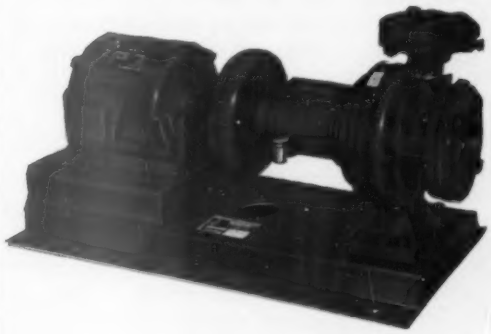
Oilburner primary Controls subject of new NEMA Book

THE NATIONAL Electrical Manufacturers Association, New York, N. Y., has issued a new publication, DC 9-1960, dealing with oilburner primary controls.

Described in this book are constructional details, classifications, functions, ratings, timing and other characteristics of domestic-type oilburner primary controls as used for controlling burners, other than the vaporizing pot type, intended for installations rated at a maximum input of 1,000,000 Btu per hour.

Copies may be obtained from NEMA, 155 East 44th St., New York, N. Y., at a cost of 30¢ each.

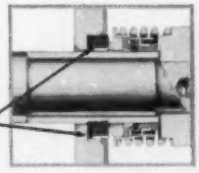
How the REMITE® seal in
B&G® centrifugal pumps
assures leak-proof operation



A new material, called "Remite," developed in the Research Laboratory of the Bell & Gossett Company, simplifies the problem of keeping water out of the bearings of centrifugal pumps.

"Remite" is almost diamond-hard...easily cuts glass...: corrosion-resistant as well as wear-proof. In all B&G Universal and industrial pumps it is used as a floating seat facing a carbon seal. This unique combination eliminates pump leakage and gives trouble-free service even when the pumped liquid contains foreign material.

"Remite" is also produced commercially for a wide variety of applications where hardness and wearing qualities are important. It has high flexural strength and has corrosion-resistant qualities against a large number of chemical fluids. Electrical insulating properties are good at both high and low frequencies.



Position of "Remite" Seal as used in B&G Universal Pump—a unit built specifically for use in forced hot water heating systems and noted for quiet operation.

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Dept. GM-7, Morton Grove, Ill.

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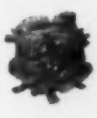
A DIVERSIFIED LINE OF HIGHEST QUALITY PRODUCTS

Booster Pumps

Package Liquid Coolers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Marlow Pumps

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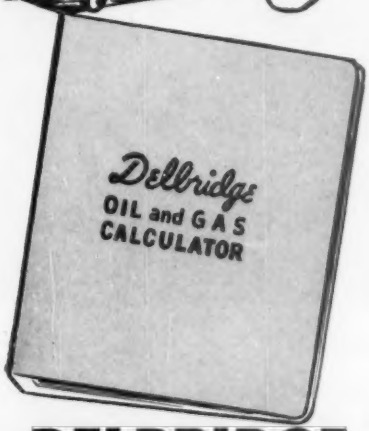
Oil-less Air Compressors

fueloil & oilheat

Fastest, Easiest Way to Figure Fuel Oil Charges!



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Stop figuring fuel oil charges the old-fashioned, long-hand way! No more errors—no more dissatisfied customers!

Figure fuel oil charges fast—easily—accurately—with the DELBRIDGE Oil & Gas Calculator! Total amount of sale is *pre-calculated* for you without laborious long-hand figuring and errors—simple as finding a phone number!

Covers prices from 10c to 40c per gallon by steps of 1/10¢. Shows gallonage from 1 to 250 gallons by steps of 1 gallon—then to 5,000 gallons in easy steps.

Durable, long-lasting leatherette metal-ring binder. Only 5¼" x 6½"—fits easily in coat pocket. Guaranteed accurate by Lloyd's of London. Only $5.00 each.

Try the DELBRIDGE Oil & Gas Calculator for 10 days . . . *without obligation!* Prove to yourself how it can save time . . . cut down costly errors. Mail coupon for FREE 10-day trial. *Send no money!*

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Send the DELBRIDGE Oil & Gas Calculator . . . *without obligation!* We will approve your invoice for $5.00 (plus postage) within 10 days if we decide to keep the Calculator.

Name.....Title.....

Company.....

Address.....

City.....Zone...State.....

Calendar of Coming Events

FEBRUARY

13–16—American Society of Heating, Refrigerating & Air-Conditioning Engineers, International Heating & Air-Conditioning Exposition, International Amphitheatre, Chicago, Ill.

14–15—Iowa Independent Oil Jobbers Assn., convention, Fort Des Moines Hotel, Des Moines, Ia.

MARCH

6– 8—Canadian Air Conditioning & Heating Council, National Heating & Air Conditioning Show, Automotive Bldg., Exhibition Park, Toronto.

APRIL

23–26—Oil-Heat Institute, convention, Statler-Hilton Hotel, Washington, D. C.

27—Greater Philadelphia Fuel Conference, annual convention, Sheraton Hotel, Philadelphia.

MAY

9–11—Oil Heat Institute of the Pacific Northwest, annual convention, Sheraton Hotel, Portland, Ore.

9–12—Mechanical Contractors Association of America (annual convention) Fontainebleau Hotel, Miami, Fla.

16–19—American Petroleum Institute, division of marketing, midyear meeting, Bal Harbor, Fla.

JUNE

6– 8—Biennial Exposition of Oil Heat, Statler Hilton Hotel, Boston, Mass.

26–28—American Society of Heating, Refrigerating and Air-Conditioning Engineers, (annual meeting) Hilton Hotel, Denver, Colo.

Elmslie visits Anchorage to observe Oil Heat Week

AT MID-OCTOBER Robert G. Elmslie, managing director, OHI of Washington, spent a week with the chapter in Anchorage, Alaska, conducting meetings, making speeches and in general promoting oil heat. He was on television programs twice, spoke to three service clubs and conducted an oilheating seminar for 150 company employees.

Anchorage, largest city in the new state, now has 12,500 single homes not including the military bases, and expects to erect 4,400 new homes in the next five years. Natural gas will soon be competitive. Anchorage has 10,000 or more degree-days yet the average fueloil consumer buys only 1,200 gallons. Homes are small and heavily insulated, also very costly.

Warm Air Association re-elects all Officers

ALL FOUR of the executive officers of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, were re-elected at the 47th annual meeting.

Harry C. Gurney, Janitrol Heating and Air Conditioning, Columbus, Ohio, continues as president; Don Winegardner, Majestic Co., Huntington, Ind., was re-named first vice-president and Harold P. Mueller, Jr., Mueller Climatrol, Milwaukee, Wis., remains as second vice-president. James M. Martin was re-elected secretary-treasurer. Martin also is managing director of the Association.

Four new members were elected to the Board of Trustees: Roy C. Brainard, Standard Metal Fabricating Co., Omaha; Keith T. Davis, Bryant Mfg. Co., Indianapolis; Jess L. Moore, Jr., Coleman Co., Wichita, Kan.; Clyde H. Wilkinson, American-Standard Air Conditioning Div., New York, N. Y.

Southwestern Ohio Group begins oil heat Promotion

SOUTHWESTERN Ohio Oil Club, Hamilton, Ohio, has held a meeting to which oilburner servicemen in Butler County were invited. Purpose of the gathering, the first step in the Club's oilheating promotion program, was to tell the servicemen what the industry is doing to improve fueloil's position in home heating.

Taking part in the program were Robert Gilmartin, Gulf Oil, and A. F. Golnik, Chicago, both of whom described new oilburner developments.

The Southwestern Ohio Oil Club is conducting an oilheating promotion campaign as part of the National Fuel Oil Council program and has raised nearly $3,000 in its initial drive for funds. The group's theme is "A Whale of a Lot of Heat with Oil . . . all the Time."

Why sell a lesser brand of heating oil?
Why settle for less business?

MOBIL MEANS MORE CUSTOMERS!

because more people buy Mobilheat than any other brand!

Mobilheat distributors are armed with tailor-made selling and marketing plans that *work* in their particular markets.

Individual planning with each distributor quickly gets down to the hard facts of whom to sell and how. There's no fooling around with "soft" programs that look better in print than on profit and loss statements.

Selling tools that help Mobilheat distributors tell the best product and service story in the business mean more customers for *all* of them. If you are interested in how to get more customers—and are willing to benefit from experience—contact the Mobil Oil Company office nearest you.

America's Largest-Selling Heating Oil!

WHEN YOU TAKE ON THE MOBIL BRAND YOU'RE ON THE WAY UP!

MOBIL OIL COMPANY, A Division of Socony Mobil Oil Company, Inc., 150 East 42nd Street, New York 17, N. Y.

HODGEPODGE

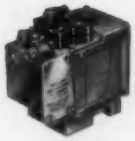
CUSTOMER RECOGNITION is one of the big reasons it pays to standardize on Honeywell matched controls and control systems. You don't have to introduce your customers to a hodgepodge of unfamiliar brands. Seventy-six years of leadership have made Honeywell a name they know and respect.

And look what else you get! UNDIVIDED RESPONSIBILITY—you'll look to one dependable source for your complete line of controls. SIMPLIFIED INVENTORY—there's a quality Honeywell control and an All-Honeywell control system for every application. ON-THE-SPOT SERVICE—with offices in 112 cities, staffed by experienced sales and service engineers, you'll always have expert assistance and the right replacement controls when and where you need them. TRAINING SCHOOLS—your service and installation men will increase their knowledge of the Honeywell line and get the latest information on automatic controls at Honeywell training schools held in your own town or area. Over 100,000 men attend these schools every year.

It all adds up to bigger profits for you. So call your nearby Honeywell office today. Or write Honeywell, Dept. FH-1-31, Minneapolis 8, Minnesota. In Canada, write Honeywell Controls, Limited, Toronto 17, Ontario.

HONEYWELL INTERNATIONAL: *Sales and Service offices in all principal cities of the world. Manufacturing in United States, United Kingdom, Canada, Netherlands, Germany, France, Japan.*

OR HONEYWELL?



V 81
Gas Valve

L 498B
Fan Limit Control

RA 816
Oil Burner Relay

L 8024
Aquastat*

THE HONEYWELL ROUND sets the standard for thermostat excellence, just as the four controls at the right are typical of the quality controls that make up All-Honeywell systems. Whatever your application—forced air, hydronics, gas or oil—there's an All-Honeywell control system that will do the job best!

Honeywell

*Trademark

First in Control

SINCE 1885

fuel oil & oil heat

LOST TIME AND DAMAGED LAWNS
don't pay off...
EXCEPT for the GAS COMPANY!

- Fills any underground tank even with completely clogged vent—does its own venting.
- Signal stops blowing when tank is full.
- Eliminates spills and damaged lawns.
- Keeps customers—stops insurance losses.
- Saves up to one half time filling tanks.
- Preventing just one bad spill more than pays for it!

***NEW ADJUSTABLE VENT-HEAD**
Requires no lifting to get extra venting. Finger-tip adjustment on collar provides more or less venting as required. Collar may be easily adjusted to shallow or deeply buried tanks—marking, checking calibrations, measuring or sticking is not necessary.

ASK YOUR EQUIPMENT DEALER OR ORDER DIRECT

TIME SAVING FILLS INC.
140 West Market Street, YORK, PA.
Phone York 6119

Please ship the following Speed Kleen Underground Fill

☐ Model 500-A With Insert For Use With Time Saving Fill Nozzle Tube $44.50

☐ Model 500-B For Use With 1¼" or 1½" Conventional Nozzle Tube With Vacuum Breaker $48.50

(If you are not using Time Saving Fills tight connections, order Model B)

Name_____

Address_____

New England OHI's Service School starts second group

GROUP II OF THE Oil Heat Service School conducted by the Oil Heat Institute of New England, Boston, Mass., begins on January 9 in Norwich, Conn.; January 10 in Providence, R. I.; January 11 in Fairhaven, Mass., to cover the Fall River-New Bedford area; January 12 in Hyannis, Mass., to cover the Cape Cod area; and January 13 in Quincy, Mass. Group III, starting March 27, has been set up to cover Waltham and Springfield, Mass.; Hartford and New Haven, Conn.; and Peabody, Mass.

The nine-week course, designed to keep servicemen up-to-date on new equipment, new service methods and service tips, covers the same ground as Group I.

There is a nominal charge for the course, which includes a reference manual of material covered during the session.

For information, contact Hollis L. Farrow, director of education, Oil Heat Institute of New England, 330 Stuart St., Boston 16, Mass.

Technical Division meets at the Cities Service Lab

THE TECHNICAL DIVISION of the Oil Heat Institute of America, New York, N. Y., met recently at the Cities Service Research and Development Center, Cranbury, N. J.

The Chairman of the Division, M. J. Reed, Socony Mobil Oil Co., reported that discussions had been held with the Federal Housing Administration in connection with re-writing FHA's bulletin to its field personnel on methods of estimating heating costs.

Establishment of a special committee, under the chairmanship of E. W. Cole, Texaco, Inc., was also announced to follow advertising by gas and electric companies on heating.

F. R. Dunn, Jr., Atlantic Refining, chairman of the Committee on Test Methods announced that the American Society for Testing Materials has published a new smog detection method and that a second is now in print, the latter concerning the effect of air on smoke spot numbers. Two more detection methods, currently being worked on will be rewritten by Dunn.

The chairman of the Tank Corrosion Committee, W. D. Bertolette, E. I. DuPont, said that six manufacturers of corrosion inhibitors were now authorized to mark their products "Approved by the OHI," having satisfactorily passed tests on samples submitted to the Committee. They are Cities Service Research and Development Co., Esso Standard Oil Div., Gulf Oil Corp., Shell Oil Co., Sinclair Research Laboratories and Stewart-Hall Chemical Co.

The group was told of the establishment of a sample field test for three types of fueloil filters and the setting up of a rating system to allow sample classification.

The Fueloil Survey conducted by the U. S. Bureau of Mines was approved and a request for continuation of the service made.

Plans to produce a film strip on fueloil were approved. The meeting tentatively agreed on the nature of the Technical Symposium to be held in Washington, D. C. at the OHI National Convention, April 24, was reached.

Fueloil trade Association is organized in New Jersey

FUEL DEALERS in the Manasquan-Point Pleasant, N. J., area met in Point Pleasant on November 1 and organized a local association to be known as Monmouth-Ocean Fuel Dealers Association.

Officers of the new association, to serve for one year, were elected at the meeting. They are: William McGeehan, president; Chet Morgan, vice-president; Harry Wardell, secretary; and Clara Cooper, treasurer.

Chicago Oil Men's Club elects Haddon President

CHARLES HADDON has been elected president of the Chicago Oil Men's Club. Also named to serve with him during 1961 are John F. Pyle, vice-president; Glenn E. Keister, treasurer; Aubrey Preston, secretary.

Directors are David Gustafson, Donald Markley and Ray C. Duffett.

the quality tells . . . the quality sells

JANITROL

Convertible to gas — adaptable for
Janitrol ADD-ON summer cooling

a new concept of ***QUIET*** *performance*
to help you sell and grow with

JANITROL

OIL-FIRED WINTER CONDITIONERS

Time was when you *had* to put up with noise and vibration in your oil-fired furnace installations. And then came this great Janitrol oil-fired winter conditioner line—and with it a whole new concept of quietness and automatic efficiency in performance!

Now noise is needless! Now you can provide gentle, *quiet* warmth (new fuel economy, too!). Do away with profit-draining service call-backs and complaints. These new Janitrols put the damper on noise so effectively you'll scarcely believe your ears when the powerful Jet-Omizer burner and floating blower and motor go into action!

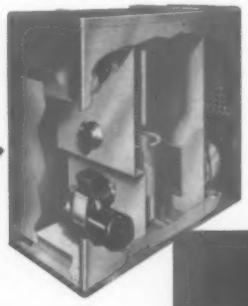
Their clean-lined beauty and compact design is easy on the eyes—saves space. And all models are designed for easy conversion to gas and addition of summer cooling.

Ask your Janitrol representative for all the facts on this great Janitrol automatic oil-fired winter conditioner line. Or, mail the coupon to us today. Get set to sell and grow with Janitrol!

JANITROL LOW-BOY MODEL OFLS-65 . . . a masterpiece of design, ideal for installation in basement recreation areas.

You can stake your reputation on

JANITROL *Quality*



Janitrol Heating Heart . . . exclusive design, fabricated from full 14-gauge steel, all-welded construction. Far quieter, more durable and more easily accessible than ever before.

Jet-Omizer High Pressure Burner . . . Super-powerful to thoroughly atomize fuel and mix it uniformly with air for clean, complete combustion.

Compact, Insulated Cabinets . . . Save space. Insulated to minimize heat transmission and provide utmost quietness in operation. Lustrous baked enamel finish.

Adjustable Leveling Bolts . . . "Adjustabolts" at corners of cabinet base simplify leveling the conditioner. Solid base plate on Low Boy adds rigidity, keeps out dirt and dust.

Factory Assembled . . . all models require only addition of burner, refractories and controls at the job. You save installation time and labor.

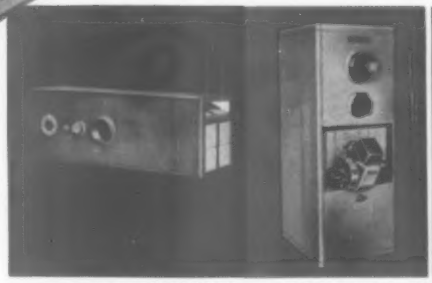
Fully Automatic Controls . . . The last word in convenience . . . Assure more uniform heating with maximum safety and economy for all conditions.

Pre-Fabricated Wiring Harness . . . Makes your installation job easier and faster, keeps you in the profit zone.

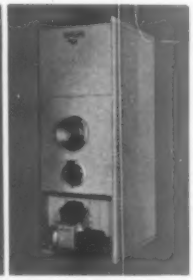
Models For All Needs . . . Btu. output at Bonnet from 84,000 to 250,000.

Adaptable for full-performance cooling with JANITROL ADD-ON COMPONENTS

Janitrol ADD-ON Cooling is **waterless,** requires only air and electricity for operation. Uses same ducts, blower and filters used for heating. May be installed with furnace, or any time later, to provide refreshing summer comfort—and more profits for you!



Janitrol HORIZONTAL Model OFHS-85 . . . for space saving installation in attic, crawl space or basement. 84,000 to 250,000 Btu/hr. output.



Janitrol HI-BOY Model OFVS-65 . . . especially designed for installation where floor space is limited—basement, utility room or closet.

Janitrol DOWNFLOW Model OFDS-65 . . . for perimeter heating systems. Compact, quiet, space-saving. Install in closet, alcove, utility room.

Call WESTERN UNION Now!

Address Your Collect Wire to:

HARRY C. GURNEY, General Sales Manager Janitrol Heating and Air Conditioning
Midland-Ross Corporation
Columbus 16, Ohio (In Canada: Wire Moffat's Ltd. Toronto 15)

JUST SAY—"Rush me full details on Janitrol Select Dealer Program"

You'll do better by far as a . . .

JANITROL SELECT DEALER

WIRE COLLECT NOW for proof . . . and a preview of the profitable future that's yours to enjoy!

NFC makes available new oil heat engineering Service

THE NATIONAL FUELOIL COUNCIL, New York, N. Y., has announced that a new oil heat engineering service has been established through the Fuels Engineering Co., N. Y.

The Service Division is designed to provide professional engineering service to all segments of the fueloil industry. The Council suggests that fuel-oil groups may wish to use this firm, or other reliable independent engineering facilities, when special situations arise requiring technical assistance.

OHI establishes new oilfired water heater Section

THE MANUFACTURER DIVISION of the Oil Heat Institute of America, New York, N. Y., has created an Oilfired Water Heater Section. This new section is the third in the Division, the others being the Domestic Section and the Commercial-Industrial Section.

Murray L. Green, Trageser Copper Works, Inc., Jamaica, N. Y., has been named chairman; he is also chairman of OHI's Excise Tax Committee.

The new section is working on a reporting system for compiling statistical information on oilfired water heater trends as reflected in sales and shipments of equipment. Green indicated that data should be available about the end of the first year of operation of the new section.

Serfass is President of Air-Conditioning Institute

R. K. SERFASS, Westinghouse Electric's Air-Conditioning Div., Staunton, Va., was elected president of the Air-Conditioning and Refrigeration Institute, Washington 6, D. C., at the group's annual meeting.

Other officers include: Russell Gray, Carrier Corp., Syracuse, N. Y., and L. N. Hunter, Crane's Plumbing, Heating and Air-Conditioning Group, Johnstown, Pa., both re-elected vice-president; F. J. Kreissl, Detroit Controls Div., Detroit, Mich., named vice-president and W. H. Aubrey, Frick Co., Waynesboro, Pa., re-elected treasurer.

Fluid Controls Institute holds Meeting in Chicago

"INVENTORY and product Control was the theme of the fall meeting of the Fluid Controls Institute, Inc., in Chicago.

V. W. Farris, Farris Engineering Corp., heads a new section covering safety and relief valves. The section will review and establish performance standards and other pertinent rating data.

Another new section will perform the same function for strainers and filters. The Institute is located at Pompano Beach, Fla., and its membership consists of manufacturers of regulators, control valves, solenoid valves, safety and relief valves.

AMCA publishes test Code for all air moving Devices

THE AIR MOVING and Conditioning Association, Detroit, Mich., has made available its Standard Test Code, AMCA Bulletin No. 210, to consulting engineers, commercial and industrial users and universities.

The new code establishes uniform methods for conducting tests on all types of air moving equipment, and is designed to provide more accurate data upon which equipment performance ratings may be based. Features incorporated in the 1960 code include nozzle test methods, directions for calculating the effect of compressibility and other significant engineering advances.

The bulletin may be obtained from Air Moving and Conditioning Association, Inc., 2159 Guardian Building, Detroit 26, Mich.

Schurman elected President of Chicago oilmen's Group

THE BURNING Oil Distributors Association, Chicago, Ill., has elected new officers for the coming year. They are: I. L. Schurman, Consumers Petroleum Co., president; Gamble North, J. W. Peterson Coal & Oil Co., vice-president; Harold Flanzer, National Fuel Co., secretary; and Henry Curran, Suburban Oil Co., treasurer. Harry A. Baldwin, Arrow Petroleum was appointed a director.

WHY?

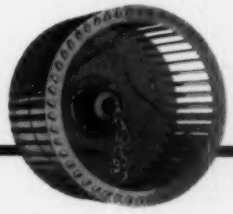
Why Does

INDUSTRIAL COMBUSTION INC.

use Revcor

"R" DESIGN BLOWER WHEELS?

because...



Type "R" Blower Wheels are designed for heavy duty application required for efficient air delivery in Industrial Combustion's large industrial warm air furnaces and boiler installations.

Revcor

Blower Wheels and Fan Blades
Deliver More Air... More Efficiently... Most Quietly!

WRITE FOR FREE BROCHURE
or send specifications to

Revcor, INC.
ENGINEERS • MANUFACTURERS
261 Edwards Street
Carpentersville, Illinois

NOW...

THE NEW, IMPROVED VECO ELECTRONIC COMBUSTION ANALYZER

CHECKS ALL THREE ON ONE METER ...IN SECONDS

- ✔ CO_2 CONTENT OF FLUE GAS
- ✔ STACK TEMPERATURE
- ✔ DRAFT OVER FIRE

New engineering improvements make VECO portable combustion analyzer better than ever — faster, more accurate, easier to use! A precision instrument designed for installation and service men to obtain maximum heating efficiency on any type of oil, gas or coal furnace.

- ✔ Direct reading time is less than 10 seconds
- ✔ All 3 functions on 1 instrument
- ✔ One meter, one dial with 3-scale readout

The VECO Combustion Analyzer allows more service calls per day without mistake and elimates needless repeat calls.

FREE!
Write for folder V588 with complete details on all models of the new, improved VECO combustion analyzer.

VECO VICTORY ENGINEERING CORPORATION
124 Springfield Road, Union, N. J.
MUrdock 8-7150

Wholesalers Convention has workshop Sessions

THE INTERNATIONAL convention of Northamerican Heating & Airconditioning Wholesalers Association, held November 27 to 30, at the Statler-Hilton Hotel, Detroit, featured workshop panel sessions, designed to implement the convention theme, "Profit by Management."

"Cutting costs and increasing profits" was a workshop panel session topic moderated by John Robertson, past president; a brainstorming session on November 30, considered "How to build a better dealer organization." A group conference immediately after discussed how to develop and maintain high employee morale.

The program included a workshop panel session for the ladies, "Problems of the heating and airconditioning executive's wife." Dr. Katherine B. Green, marriage counsellor, discussed this topic.

In addition there were regular committee meetings, general membership get-togethers and a conference booth set-up.

OHI group insurance Plan reduces premium Costs

LIFE INSURANCE buyers under the Oil-Heat Institute Insurance Trust, New York, N. Y., can save up to 87% over conventional policies, Paul Collins, a speaker at the recent OHI Management Conference said.

As an example, Collins said, a $35,000 policy on the life of a 45 year old business man would ordinarily be $1,167. If he were in the 40% income tax bracket, the man would have to earn $1,950 to pay the premium. Under OHI's group plan, a similar policy costs $490 and, since it is purchased through a business, is a deductible expense item, which reduces the cost to a corporation taxed at the 52% rate to $235.

ARI develops Program of technical Training

THE TRAINING COMMITTEE of the Air-Conditioning and Refrigeration Institute's Unitary Air-Conditioner Section plans to extend its training program into public schools. A pilot program is already operating in Central High School, Syracuse, N. Y. The committee plans a package training course in airconditioning and refrigeration service and maintenance usable in high schools and vocational schools throughout the country where a need exists for trained installation and service mechanics.

In Syracuse there are high school students attending day classes and some 56 men from industry attending two night classes. And, the package being developed probably will include curriculum material for both day and extension course students.

Philadelphia Dealers at degree-day Workshop

A DEGREE-DAY Workshop was sponsored by the Greater Philadelphia Fuel Conference on December 8, held in the New Barclay Bldg., Philadelphia.

A panel of three dealers, representing a small, medium and large-sized fueloil operation, described the systems they used. The dealers, all members of the Association, were: William W. McClarin, Val Alen Bros., Ridley Park, Pa.; Richard J. Farrell, Farrell Sales & Service, Upper Darby, Pa., M. F. Prior, F. C. Haab Co., Inc., Philadelphia, Pa.

In addition, Thomas J. Breslin, manager, retail heating oil, Central Region, Atlantic Refining Co., acted as moderator and Bert Wehof, marketing manager, H.R.B. Singer, Inc., Plainfield, N. J., delivered the keynote talk on "Automatic delivery Systems."

Warm air Group plans Study of humidification Problems

THE NATIONAL Warm Air Heating and Air Conditioning Association, Cleveland, Ohio, has announced the formation of a Humidification Study Group.

The group plans to look into such questions as desirable humidity range, factors affecting moisture requirements, procedures for determining moisture requirements, available equipment and considerations and recommendations for its selection.

(*Please turn to page* 84)

GAS FIRED BASEMENT

OIL FIRED BASEMENT

GAS FIRED HORIZONTAL

AIR-EASE

OIL FIRED HORIZONTAL

S 85 S 100 S 125 S 150
S 200 S 250 S 325

HEATING · COOLING

HI-BOY UNITS

BASEMENT UNITS

COUNTERFLOW UNITS

HORIZONTAL UNITS

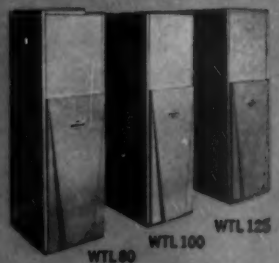
BLOWER FILTER UNITS

UNIT HEATERS

GAS FIRED HI-BOYS

OIL FIRED HI-BOYS

GAS FIRED COUNTERFLOWS

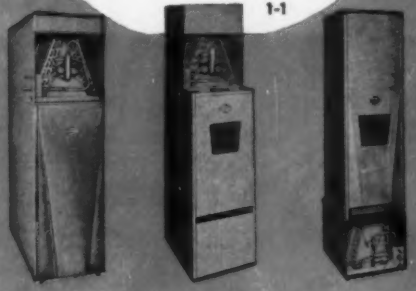


OIL FIRED COUNTERFLOWS

GAS FIRED
UNIT HEATERS
(7 SIZES)

BLOWER FILTER UNITS

1-1



WRITE for information and name of nearest distributor

THE JOHNSON FURNACE COMPANY

2129 WEST 117th STREET • CLEVELAND 11, OHIO

J. M. SWEENEY, J. M. SWEENEY COAL AND OIL CO., CHICAGO, ILLINOIS

"We gained 267 new customers and upped our sales to a new high of 7,750,000 gallons in a short time after changing to Texaco Fuel Chief Heating Oil in 1960. The Texaco brand name was the big factor. Also, we know Texaco people are jobber-minded–and are qualified by long experience to give valuable assistance and advice when necessary. These are just a few reasons why we like to sell the best... Texaco."

Why You Can Grow With Texaco

1. Texaco is jobber-minded. Proof: 842 Consignees and Distributors of Texaco Products have been with Texaco over 20 years, some over 45 years.
2. Proved and profitable sales policies.
3. Immediate acceptance. Fuel Chief is sold under the nationally-famous trademark, the Texaco red star with the green "T."
4. Dependable, efficient delivery at all times.
5. Texaco Fuel Chief is clean-burning.

TEAM YOUR NAME with Texaco and profit. Send coupon today to Manager, Fuel Oil Sales Division, Texaco Inc., 135 E. 42nd Street, New York 17, N. Y.

FOH-1

I would like complete information about the possibility of teaming up with Texaco as a Distributor of Fuel Chief Heating Oil.

NAME_____

STREET_____

CITY_____

STATE_____

FUEL CHIEF HEATING OIL

Delco announces an outstanding new opportunity...

THE GM-DELCO KEY DEALER PLAN

With a complete new line of central heating and air conditioning systems, GM-Delco offers you the GM-Delco Key Dealer Plan—designed to help you get more sales in this huge market . . . and get more profits! Here are the principles of this new plan:

- **General Motors-Delco name**—assures top flight engineering and a universally known reputation for Reliability.
- **Direct Factory-Dealer Distribution**—with planned sales, advertising, training, and promotional aids.
- **Limited number of dealers**—in each market, and only they can buy Delco equipment.
- **Protected Pricing**—stable Pricing that permits dealer profits.
- **Dealer Listings in national ads**—insure direct participation in dynamic advertising, at no cost to you.
- **Complete Sales Building Plan**—of local advertising, prospecting, and selling to build sales.
- **Over 200 models—plus accessories**—meet all needs.
- **General Motors Group Insurance**—available to eligible dealers and their personnel.

GM Delco 365 CONDITIONAIR

There may still be a GM-Delco Franchise open in your area. For full information on the outstanding business opportunities in the GM-Delco Key Dealer Plan, fill out this coupon TODAY and mail to:

Delco Appliance Division, General Motors Corporation
Department F4, Rochester 1, New York

Please give me complete information on your GM-Delco Key Dealer Plan

Name_____

Title_____

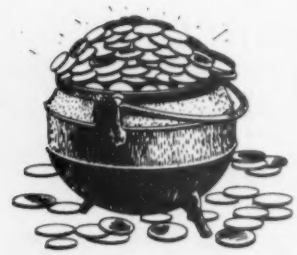
Business Name_____

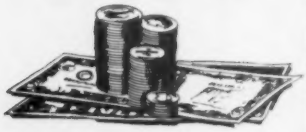
Street_____

City & Zone_____ State_____

A COMPLETE LINE OF FURNACES, BOILERS, AIR CONDITIONING, HEAT PUMPS AND WATER HEATERS TO MEET ALL YOUR REQUIREMENTS.

fueloil & oilheat





EXTRA PROFITS
FOR
PROGRESSIVE
OIL FIRMS

WITH

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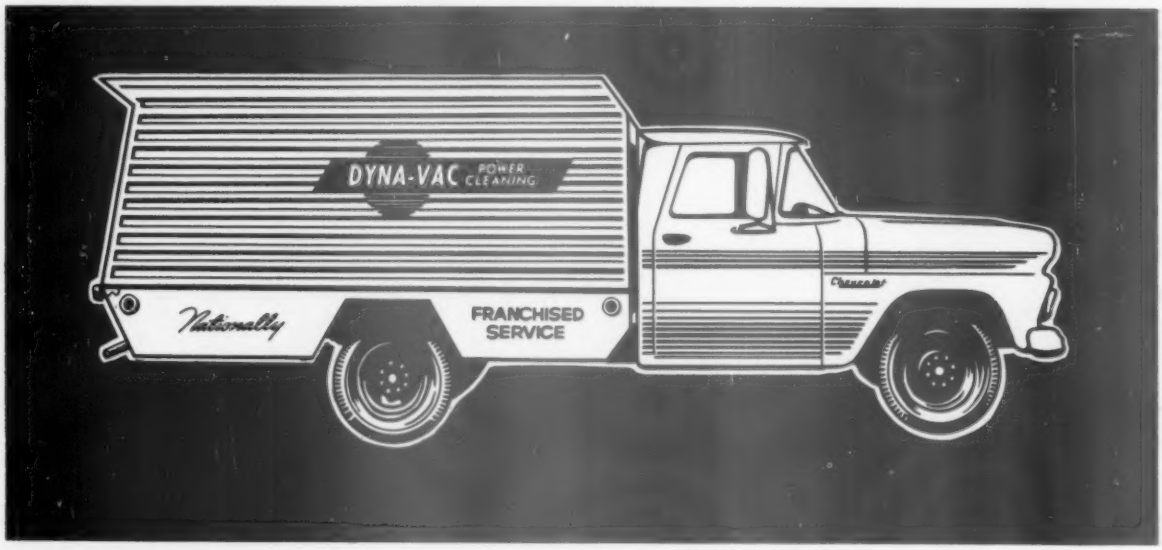

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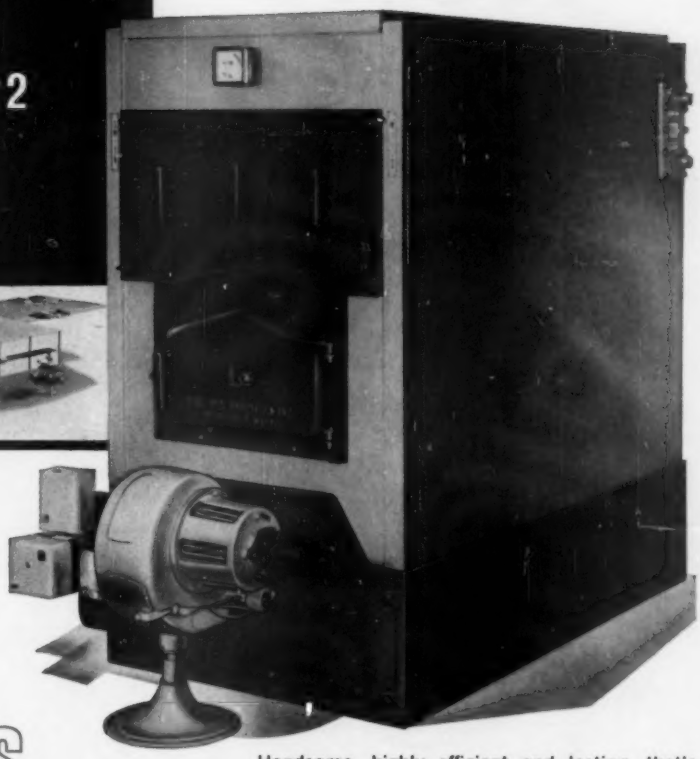

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2500 Smith-Mills BOILER-BURNER UNIT

Handsome, highly efficient and lasting, that's the Smith-Mills 2500. Many features including vertical water tube construction, extended fin surfaces, heavy fibre glass insulation to prevent heat loss, unusually clean burning precision built burner of high combustion efficiency.

PROVIDES 452 to 962 MBH FROM 5 to 10 SECTION BOILERS

The next time you are about to specify an oil-fired heating unit for a commercial building of moderate size, consider the Smith-Mills 2500. It is available for either hot water or steam and in six sizes. It uses No. 2 oil and has a burner capacity of 4.45 to 9.25 gallons. Electronic control is standard on the 8, 9 and 10 section boilers. It is available optionally on the 5, 6 and 7 section boilers.

The Smith-Mills 2500 is ideal for restaurant, garage, motel, store or small factory use. This integrated unit is designed to furnish trouble-free heat *and continuous hot water service* with a minimum of boiler room supervision and maintenance. Sections of rugged cast iron assure extra-long life. Extra-long flue travel assures greater efficiency and economy.

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Optional built-in tankless or tank water heater. Tankless sizes from 4 to 12 gallons per minute; tank heaters are also available for tank sizes up to 240 gallons: 180° hot water.

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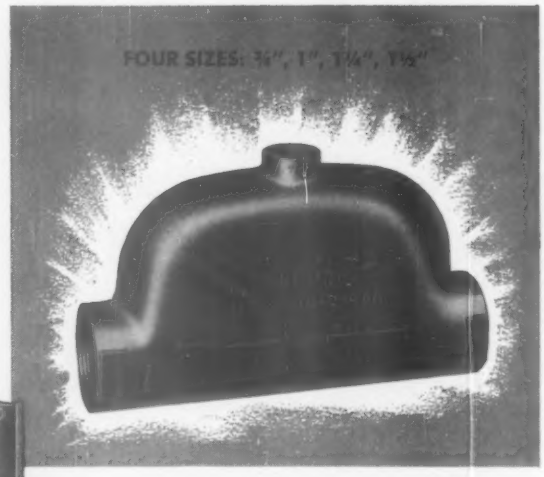

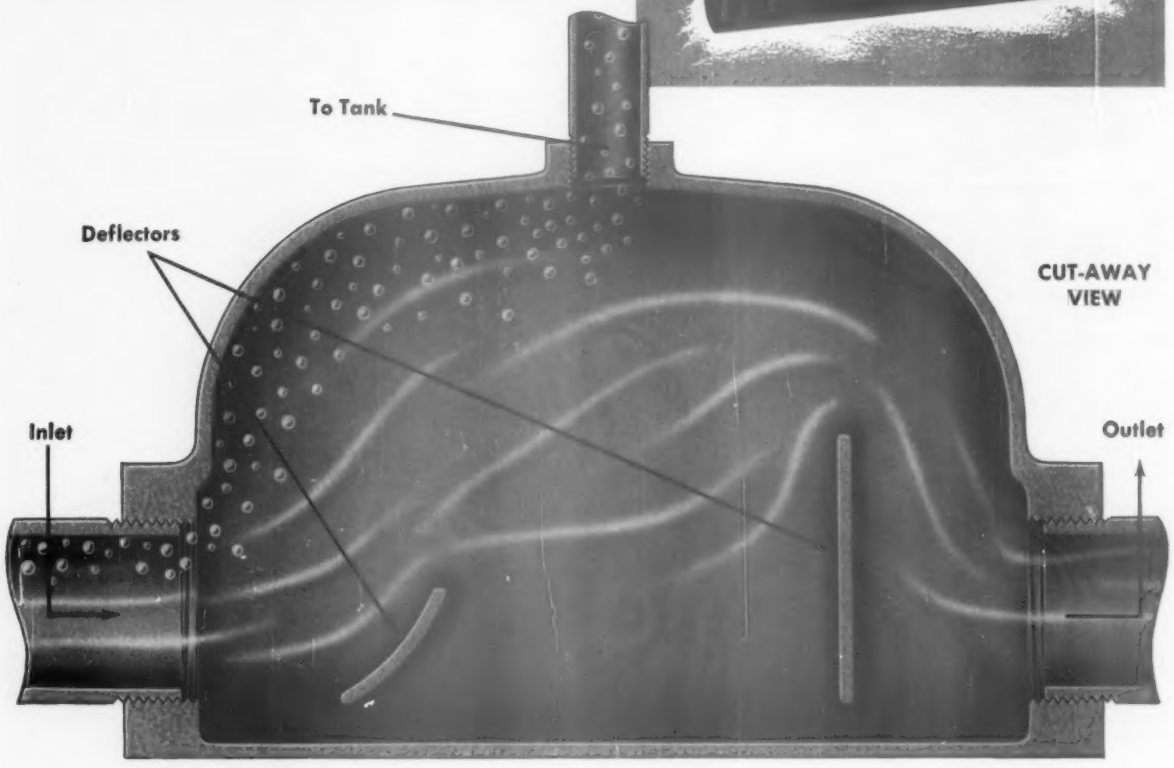

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You'll want a share of this business . . . and you'll be in a better position to get it with U.S.-Carlin. Check the PLUS features offered by U.S.-Carlin and see how you can outdistance competition with the line that lets you offer more . . . and make more!

- **MODEL 150F**, a tried and tested U.S.-Carlin oil burner especially designed for compact combustion chambers, assures clean firing, highest efficiency. One-piece cast iron housing, stainless steel air cone, combustion head parts plated to prevent moisture damage, nozzle line of ⅛" heavy-wall brass pipe . . . these are features that spell QUALITY!
- **COMBUSTION CHAMBER**, adequately sized, of high temperature refractory enclosed in steel casing.
- **FLUE LINER** of aluminized steel for longer life.
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- **FACTORY WARRANTY** — Tanks guaranteed up to 15 years (10 years for glass-lined models) when used for domestic hot water. Warranty card with every unit.
- **BROAD LINE** — Models to meet every residential and many commercial and institutional needs . . . glass-lined in 30, 50, and 70-gallon capacities; copper-lined in 30, 45, and 65-gallon capacities.

Get all the facts today on U.S.-Carlin Water Heaters . . . the line that's made right . . . and priced right . . . for profitable selling. Contact your wholesaler or write us today.

ALSO ADVANCED DESIGN U.S.-CARLIN OIL BURNERS

"SHELL HEAD" BURNERS TO 12 GPH

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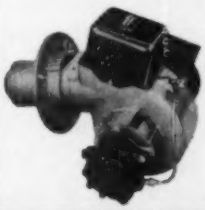

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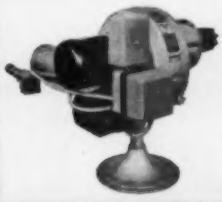
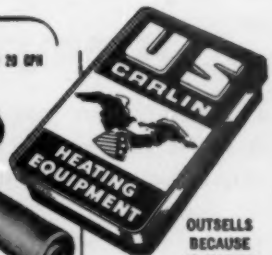


HIGH CAPACITY BURNERS TO 29 GPH



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THE CARLIN COMPANY • WETHERSFIELD, CONN.

MID-WEST REPRESENTATION COMPLETE BURNER STOCKS AT CHICAGO

U.S.-Carlin burners are listed by Underwriters' Laboratories, Inc. and approved under U.S. Government Commercial Standard CS75-56 where applicable.

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TWO ON THE ROAD, FIVE TO GO—Macks of Berkshire Ice & Fuel Company are constantly on the go servicing customers without fail. So dependable has Berkshire found its Macks, even in severe winter weather, that fleet now numbers seven.

BUSY TIME OF YEAR—When the leaves are down and the weather turns cold, homeowners want to top off their tanks, creating a demand on Berkshire's equipment. Thanks to its predominantly Mack fleet, the company meets all demands —even when snow is hub deep.

"Sorry" can't heat a home!

Dependable Macks keep customers happy

An unscheduled shop visit for mechanical failure is one sure way a truck can lose customers for you. Dependability in fuel oil delivery is the biggest single factor in truck selection.

Because it has witnessed Mack truck dependability since solid tire days, Berkshire Ice & Fuel Company of New Haven, Conn., is a steady Mack booster.

Berkshire just recently took delivery of two new Mack B-42P Models, bringing to seven the number of Macks it relies on for dependable fuel oil delivery throughout the severe New England winters.

If dependability is an important factor in your fleet's operation, it will pay you to see your Mack branch or distributor. He can suggest the exact Mack for you to do your job with utmost dependability . . . and with unequaled economy, too. Mack Trucks, Inc., Plainfield, N. J. Mack Trucks of Canada, Ltd., Toronto, Ontario.

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MACK for over 8 straight years **NO. 1** by far in sales of diesel trucks

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GF designed and rated to deliver the best in domestic hot water service!

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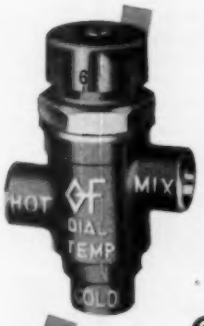

❷ Accurate Mixing Valve

GENERAL Tankless Water Heaters, rugged, efficient, economical . . . become integrated systems when combined with General's unique Dial-Temp Mixing Valves. These compatible components are the key to maximum efficiency at minimum cost . . . and bear the GF symbol that means superior service.

The GF symbol of product reliability covers one of the most complete lines of plumbing and heating specialties, fittings and tankless water heaters available. GF *performance-proved* line, backed by over thirty years of continuous engineering research and manufacturing experience, incorporates the most recent developments in applied hydronics. For complete satisfaction, see GENERAL first!

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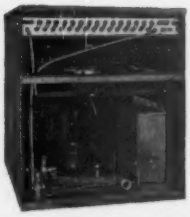
GENERAL FITTINGS COMPANY

EAST GREENWICH • RHODE ISLAND

Luxaire® Can Lead you to EXTRA PROFITS in '61

NEW COOLING UNITS



Air Cooled Condensing Unit New 3 and 5 Ton Capacities with Top Discharge through top-mounted Condenser Coil for Peak Performance!

Self-Contained A. C. Unit New 2 or 3 Ton Unit has Condenser Intake and Discharge at same end! Cooling Air and Return Air at other end!

New Air Cooled Condensing Units: Now a complete range of sizes — 2, 3, 4 and 5 Tons. Top discharge through condenser coil with powerful propeller fan. 3 and 5 Ton also available with centrifugal blower! High ratings!

New Self-Contained Air Conditioning Units: 2 and 3 Ton. Easy, flexible installation. Condenser intake and discharge through common grille. Cooling and return air connections on opposite end. Flush-to-wall indoor or outdoor installation. Separate condenser and evaporator blowers and motors! Priced for volume business! High capacities!

NEW OIL FURNACES

Winter A. C. Unit Exposed Burner Heavy Gauge Heating Element and Extra-Capacity Blower!

Winter A. C. Unit with Vestibule Upflow Cooling Coil installed!

New Oil Winter A. C. Units with High Air Deliveries: Three Sizes — 84,000, 95,000 and 112,000 Btu output. Assembled and wired at the factory. Extra-capacity blowers for the easy addition of cooling!

Round combustion chamber with refractory firebox, large rectangular radiator and long flue travel provide quiet, efficient operation. Available with vestibule or with burner exposed!

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Electric A. C. Unit — Horizontal with Cooling Coil Addition of Cooling Coil makes this an All-Electric Year 'Round Air Conditioning Unit!

Electric A. C. Unit — Vertical Same Unit can be installed for Upflow or Counterflow!

New Electric Winter Air Conditioning Units: Four Sizes — 17.4, 23.2, 29.0 and 34.8 Kilowatts. Electric energy is fuel. For (1) Heating, (2) Ventilation, (3) Filtration and (4) Humidification, if desired. Every winter air conditioning advantage! Summer Air Conditioning is readily added at any time!

If you are located in an area where electricity is a competitive heating fuel, Luxaire Electric Furnaces are priced to make you extra-competitive!

MORE COMPLETE AND COMPETITIVE THAN EVER—WITH NEW, LOW PRICES!

The biggest, best, most complete line of Heating and Air Conditioning units in Luxaire history — unit by unit, designed and constructed to satisfy the individual needs of your market! This is Luxaire's challenge and your opportunity for more profitable business in 1961!

Luxaire has reduced 1961 prices, where they count — on the most wanted units and with new units to increase your business! Thanks to better design and production methods, Luxaire continues to stress the qualities that count — heavy construction, uncomplicated design and trouble-free performance!

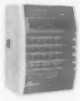
Luxaire makes it unnecessary for you to overlook these qualities when seeking low prices. For Luxaire gives you excellence — and a low price!

Enjoy the advantages of wholesale distribution — the competitive price without a big stock! See your Luxaire jobber, today!

MORE GAS FIRED UNITS THAN EVER—EASIER TO SELL THAN TO COMPETE AGAINST!

Gas and Oil Upflow and Counterflow Units!

Gas and Oil Horizontal Furnaces!



Gas Fired Unit Heaters!

Gas or Oil Basement Furnaces!

Gas Conversion Burners!

2, 3, 4 and 5 Ton Split-System Summer Air Conditioning Units! Upflow, Horizontal, Counterflow Cooling Coils and Blower-Coil Units!

Air or Water Cooled Gas or Oil Fired Year 'Round Combination Air Conditioning Units!

THE C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

Luxaire® HEATING & AIR CONDITIONING UNITS

Oilheating Sales totalled 516,863

Economic and competitive Conditions contribute to 19% decline in 1960

PRELIMINARY ESTIMATES for sales of oilburners and units in 1960 indicate a total of 516,863, a drop of about 19% from 1959, when a revised total of 635,951 burners and units were sold.

The decline can be attributed to several reasons. Chief of these is the drop in housing starts, particularly in those areas where oilheating is strong. Then general business conditions retarded sales somewhat and continuing competition from other fuels was a factor.

Oilheating sales in 1960 were 24% below the last ten-year average of 683,365 installations and about 23% below the postwar average of 675,500 burners and units.

Total sales of automatic heating, oilburners, stokers, gas burners and including electric heating, aggregated 1,826,150, a drop of 11% from the total of 2,061,632 registered in 1959. All automatic heating sales, except electric heating, showed a decline: Oilburners totaled 516,863 compared with 635,951 in 1959, a drop of 18.8%; gas heating came to 1,170,740 installations compared with 1,320,440 in 1959, down 11%; coal stokers dropped 20% to a total of 10,947 and electric heating registered a 14% increase to an estimated installation total of 127,600.

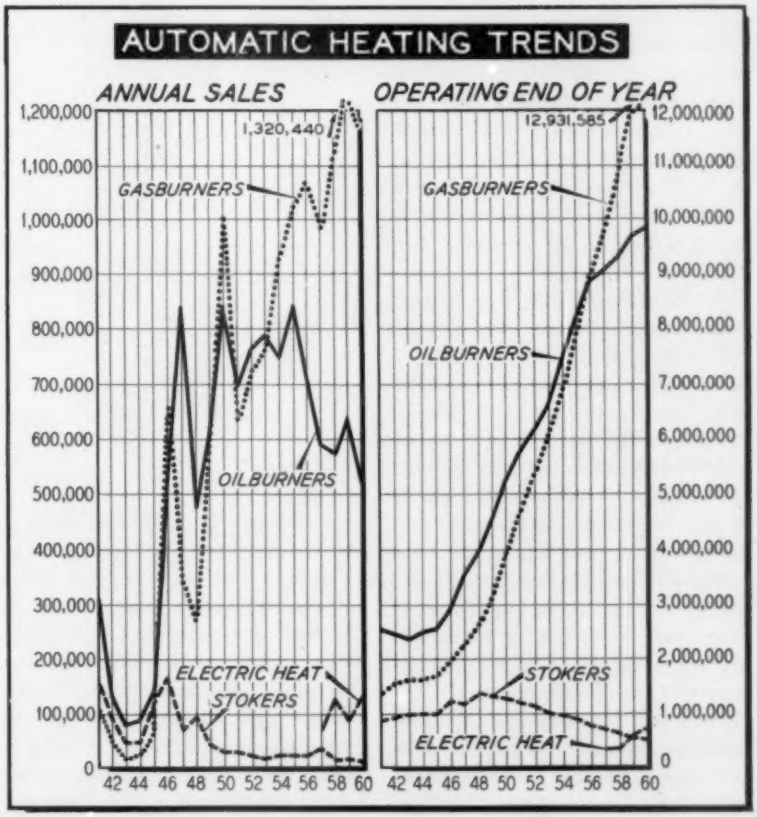
At the end of 1960 there were 23,967,570 automatic heating systems in operation, including homes completely heated with electricity. This total represented an increase of 6% over the 22,697,083 total—also including electric heat—in operation at the end of 1959.

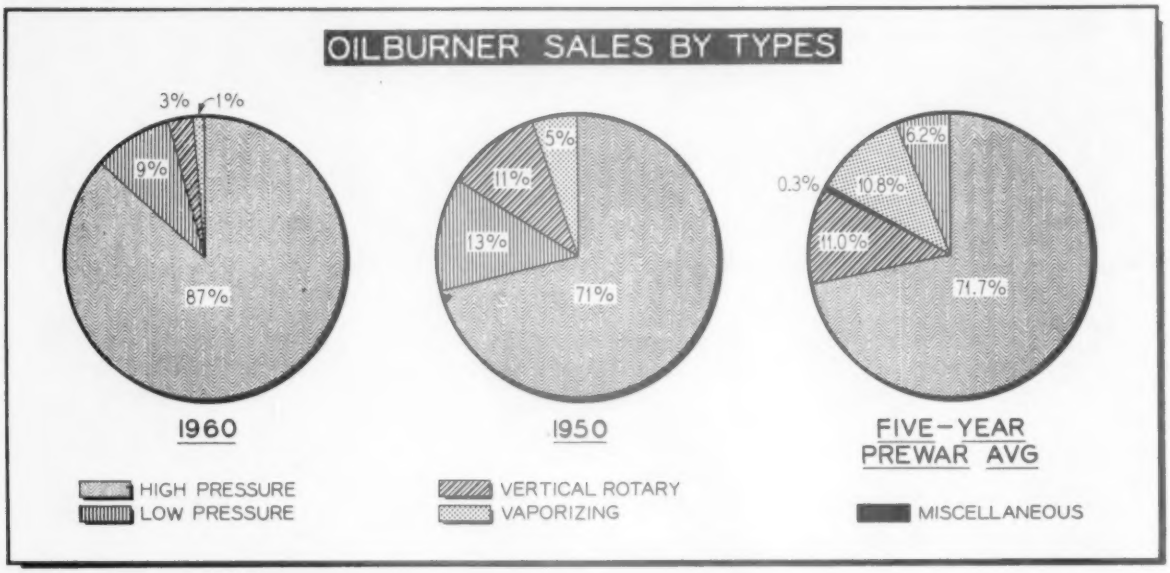
Breakdown of automatic heating in use, with comparative percents for previous years, appears on the next page.

TABLE 1
Automatic Heating Trends

	Total	% of Total Stoker	Oil-burners	Gas-burners
ANNUAL SALES				
1941	652,591	28.0%	51.1%	20.9%
1942	225,041	35.1	44.2	20.6
1943	64,465	27.5	51.9	20.6
1944	102,028	31.0	48.9	20.1
1945	321,693	37.1	45.2	17.7
1946	1,336,316	13.5	37.0	49.5
1947	1,271,679	4.9	69.8	25.3
1948	803,222	9.5	56.7	33.8
1949	1,281,706	2.3	47.9	49.7
1950	1,210,725	1.1	45.6	53.3
1951	1,346,794	1.4	50.1	48.5
1952	1,544,160	1.2	50.4	48.4
1953	1,636,812	0.8	50.3	48.9
1954	1,698,459	0.8	43.4	55.7
1955	1,974,282	0.7	41.0	58.3
1956	1,809,508	0.8	39.2	60.0
1957	1,579,088	0.8	36.7	62.5
1958	1,739,865	0.7	32.7	66.6
1959*	2,061,632	0.7	30.8	64.1
1960	1,826,150	0.6	28.3	64.1
OPERATING AT END OF YEAR				
1941	4,514,627	17.8%	53.2%	29.0%
1942	4,615,785	19.0	51.7	29.3
1943	4,633,755	19.3	51.3	29.4
1944	4,700,130	19.7	50.9	29.4
1945	4,979,775	20.7	50.5	28.8
1946	6,009,347	19.3	47.0	33.7
1947	7,133,709	16.6	51.2	32.2
1948	7,752,498	16.0	51.3	32.7
1949	8,845,695	14.0	50.8	35.2
1950	10,434,971	11.3	49.6	39.1
1951	11,506,701	9.8	49.6	40.6
1952	12,757,700	8.5	49.7	41.8
1953	14,085,664	7.1	49.8	43.1
1954	15,423,130	5.8	49.2	45.0
1955	17,047,244	4.6	48.5	46.9
1956	18,452,422	4.0	47.3	48.7
1957	19,516,099	3.5	46.3	50.2
1958	20,742,043	2.9	45.0	52.1
1959	22,697,083	2.4	42.5	52.5
1960	23,967,570	2.0	41.0	54.0

*Revised





Operating 12/31/60		— PERCENT — *1960*	*1959*	*1958*
9,824,590	Oilburners	41	42.5	45.0
12,931,585	Gas Burners	54	52.5	52.1
492,095	Stokers	2	2.4	2.9
719,300	Electric	3	2.6	..
23,967,570				

Total domestic oilburners installed during 1960 are compiled in TABLE 2, along with comparative data for previous years. Central heating oilburners in use on December 31, 1960 had increased to an estimated total of 9,824,590. This registered a 2% increase over the revised total of 9,646,840 in use at the end of 1959. The number in use at the end of 1960 resulted from a net gain of 177,750 oilheating customers.

To compute this net gain in users we deducted from total sales of 516,863 a figure of 209,846 or 40.6% of sales, representing oilburners installed to replace old or obsolete oilheating equipment. This resulted in a total of 307,017 new oilheating jobs installed in 1960. Next were deducted losses to other fuels—those oilheating jobs estimated to have been removed and replaced with heating using other fuels. Details on these appear in a "Losses to other Fuels" table later in the article. The resultant net gain of 177,750 represented 34% of 1960 sales.

Prices of conversion oilburners showed a decline at the retail level in 1960 and an increase at the wholesale level. Boiler-burner units at the retail level dropped in price according to reports from dealers telling of 1960 activities at both the retail and factory level. This perhaps reflects bigger acceptance for oilheating in the smaller sizes of boiler units, which naturally can be offered at lower prices. Furnace-burner units rose slightly at the retail level and remained virtually the same as far as factory prices are concerned.

Separate burners sold at retail during 1960 for $339, almost 6% below the $360 reported for 1959. Boiler-burner units in 1960 were offered at retail for $770, down 6.1% from the $802 reported for the previous year; furnace-burner units installed for $621 during 1960 and represeated a 1.6% increase over the $611 for which this equipment sold at retail in 1959.

During 1960 dealers paid about the same for equipment as they did in

TABLE 2

Total Domestic Burners and Units

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	.....	.....	1930	648,500
104,000	.....	.....	1931	747,300
89,200	.....	.....	1932	831,120
88,600	.....	.....	1933	914,280
108,290	.....	.....	1934	1,012,870
150,510	$55,342,500	.....	1935	1,152,125
220,075	74,054,700	.....	1936	1,340,675
210,740	69,265,100	$22,238,200	1937	1,530,545
179,360	54,583,900	18,292,900	1938	1,667,745
236,140	66,520,400	23,352,200	1939	1,862,330
302,210	89,548,800	32,273,600	1940	2,135,125
333,250	113,546,400	41,931,800	1941	2,402,060
99,514	29,871,600	14,067,900	1942	2,386,290
33,445	5,283,300	5,431,000	1943	2,375,455
49,915	17,988,300	7,652,000	1944	2,392,265
145,596	49,245,200	17,845,400	1945	2,517,055
492,593	211,448,000	79,007,100	1946	2,821,044
888,083	418,178,500	156,759,900	1947	3,650,514
455,245	237,385,500	84,114,100	1948	3,975,773
614,712	262,843,600	102,660,700	1949	4,490,535
846,815	371,585,000	140,582,300	1950	5,172,134
675,060	330,610,900	123,630,800	1951	5,704,556
777,604	364,500,000	145,487,000	1952	6,345,876
823,365	428,600,000	204,289,000	1953	7,017,609
738,048	429,132,000	185,826,000	1954	7,581,973
808,805	458,237,000	205,073,000	1955	8,255,228
709,192	414,161,000	184,950,000	1956	8,732,445
580,447	318,259,000	145,797,000	1957	9,028,284
568,318	324,589,400	142,863,900	1958	9,324,927
635,951	376,979,100	170,244,200	1959*	9,646,840
516,863	303,016,000	135,969,113	1960	9,824,590

*Revised

1959. There was an increase in the price they reported for separate burners, but there was a drop in the price they were required to pay for boiler-burner units, while furnace-burner units remained about the same.

Dealers paid $104 for separate oilburners, a 5% increase over the $99 they reported in 1959. In buying boiler-burner units, dealers said they paid $379, which was a 4.5% decrease from the $397 reported for 1959. And, when buying furnace-burner units, dealers paid $288, virtually the same as they paid in 1959.

Typical patterns emerged in 1960 from reports of the types of oilburners sold. High pressure gun type oilburners accounted for the largest portion of total sales, 87%, up slightly from 85% the year before. Next in importance were low pressure burners, representing 9% of total sales as compared with 10.5% in 1959. Following were vertical rotary burners and vaporizing burners, both of which were reported at the same percentage totals as in 1959, namely 3% and 1%, respectively. The vaporizing burners, incidentally, include those installed for central heating only.

1960 No.	1960 %		1959 %	Prewar Avg. %*
449,671	87	High pres.	84.9	71.7
46,518	9	Low pres.	10.5	6.2
15,506	3	Rotary	3.2	11.0
5,168	1	Vaporizing	1.4	10.8
516,863				

*Included 0.3% miscellaneous.

During 1960 oilburners installed to convert a heating system to oilfiring from other fuels amounted to 149,374 jobs, 28.9% of all oilheating sales. This compares with a revised total of 218,768, or 34.4% of sales made during 1959 for conversion to oil.

New homes oilheating jobs in 1959 were installed in a revised total of 212,407 homes, 33.4% of all installations. During 1960 new homes accounted for 30.5% of oilheating sales, representing 157,643 jobs.

The third category of oilheating sales are replacements. Here oilburners in 1960 were used in 209,846 installations, 40.6% of total sales, to replace worn-out or obsolete oilheating equipment. This is the highest percentage ever recorded for this type of sales, but understandably so. More and more oilheating installations have been in long enough so that mechanically they are at an age where replacement can be economically recommended. In 1959 replacement oilburners were used in 204,776 or 32.2% of all oilheating sold.

TABLE 3
Domestic Conversion Oilburners

Sales	Retail Value	Factory Value	Year	No. in Use (End of Year)
126,400	$79,400,000	$24,648,000	1930	648,500
104,000	50,310,000	16,640,000	1931	747,300
86,200	36,911,000	12,068,000	1932	827,320
80,800	31,263,000	10,423,000	1933	902,680
98,990	33,116,000	11,681,000	1934	991,980
136,825	43,373,500	13,408,900	1935	1,115,125
197,430	59,229,000	18,558,400	1936	1,281,305
184,920	54,181,600	15,903,100	1937	1,446,295
153,850	40,462,600	12,154,200	1938	1,559,675
200,020	48,004,800	15,601,600	1939	1,719,940
238,845	55,645,900	18,152,200	1940	1,933,605
237,965	59,490,200	19,275,200	1941	2,113,160
71,658	16,552,700	6,090,900	1942	2,073,260
21,363	1,885,800	1,837,200	1943	2,060,465
37,885	10,607,800	4,184,600	1944	2,072,445
119,680	34,292,200	11,249,900	1945	2,173,910
408,861	151,258,100	48,625,800	1946	2,397,554
669,615	262,489,000	83,701,900	1947	3,020,741
312,170	131,735,700	36,523,900	1948	3,208,365
440,748	155,143,300	47,160,000	1949	3,568,024
608,013	214,020,600	65,665,400	1950	4,057,412
477,267	189,475,000	55,363,000	1951	4,433,834
542,768	203,538,000	64,047,000	1952	4,881,476
382,042	140,591,000	42,789,000	1953	5,193,160
250,936	96,360,000	24,843,000	1954	5,366,444
241,024	91,107,000	22,415,000	1955	5,609,194
170,206	61,785,000	16,680,000	1956	5,723,726
150,916	53,877,000	14,488,000	1957	5,800,644
176,178	68,180,900	18,146,300	1958	5,892,603
152,628	54,946,100	15,110,200	1959*	5,969,872
129,216	43,804,200	13,438,500	1960	6,014,298

*Revised

Estimates of conversion oilburners in recent years have been based principally on what type of installations dealers tell us they make. The "No. in Use" figure may be high since quite a few burners originally installed as conversions have been replaced with oilfired units.

TABLE 4
Conversion Burner Price Trends

RETAIL Average	RETAIL % change prev. yr.	RETAIL Aver. Min.	RETAIL % change prev. yr.		FACTORY Average	FACTORY % change prev. yr.	FACTORY Aver. Min.	FACTORY % change prev. yr.
$692	..	$554	..	1929	$240	..	..	..
629	— 9.1	516	— 6.8	1930	195	—18.7	..	..
495	—21.3	413	—19.9	1931	160	—18.0	..	..
438	—11.5	371	—10.1	1932	140	—12.5	..	..
395	— 9.8	341	— 8.1	1933	129	— 7.8	$109	..
341	—13.6	310	— 9.0	1934	118	— 8.5	99	— 9.1
317	— 7.0	275	—11.2	1935	98	—16.9	88	—11.1
300	— 5.3	266	— 3.2	1936	94	— 4.1	85	— 3.4
293	— 2.3	255	— 2.6	1937	86	— 8.5	82	— 3.5
263	—10.2	236	— 7.4	1938	79	— 8.1	76	— 7.3
240	— 8.7	218	— 7.6	1939	78	— 1.3	69	— 9.2
233	— 2.9	210	— 3.7	1940	76	— 2.6	63	— 8.7
250	+ 7.2	226	+ 7.6	1941	81	+ 6.9	65	+ 3.2
267	+ 6.8	245	+ 8.4	1942	85	+ 4.9	73	+12.3
276	+ 3.3	247	+ 0.9	1943	86	+ 1.2	76	+ 4.1
280	+ 1.4	258	+ 4.7	1944	98	+13.9	78	+ 2.6
313	+11.8	292	+13.2	1945	94	— 4.1	84	+ 7.7
370	+18.2	294	+ 0.7	1946	119	+26.6	90	+ 7.1
392	+ 6.0	353	+20.1	1947	125	+ 5.0	107	+18.9
422	+ 7.6	349	— 1.1	1948	117	— 6.4	101	— 5.6
352	—16.6	329	— 5.7	1949	107	—14.5	97	— 4.0
352	..	319	— 3.0	1950	108	+ 0.9	97	..
397	+11.3	330	+ 3.4	1951	116	+ 7.4	102	+ 5.2
375	— 5.5	326	— 1.4	1952	118	+ 1.7	102	..
368	— 1.9	320	— 1.8	1953	112	— 5.1	100	— 0.2
384	+ 4.0	319	..	1954	99	—11.6	95	— 5.0
378	— 1.5	312	— 2.1	1955	93	— 6.1	95	..
366	— 3.2	311	— 0.3	1956	98	+ 5.4	97	+ 2.1
357	— 0.2	312	+ 0.3	1957	96	— 2.0	93	— 4.0
387	+ 8.4	314	+ 0.6	1958	103	+ 7.2	97	+ 4.3
360	— 7.0	316	+ 0.6	1959	99	— 3.9	97	..
339	— 5.8	313	..	1960	104	+ 5.0	97	..

Oilburner Replacements

Number	*Year*	*%*
40,936	1940	15.2
56,315	1941	16.9
33,170	1942	33.3
13,910	1943	41.6
38,280	1944	76.7
29,847	1945	20.5
36,540	1946	8.0
58,613	1947	6.6
90,750	1948	19.9
58,200	1949	10.2
96,960	1950	11.5
91,808	1951	13.6
103,283	1952	13.3
104,567	1953	12.7
118,080	1954	16.0
119,483	1955	14.8
141,838	1956	20.0
151,256	1957	26.0
173,652	1958	30.5
204,776	1959*	32.2
209,846	1960	40.6

*Revised

Slightly more than 2% of the 516,863 oilburner installations made in 1960 were used to replace gas heating equipment, 2.1% to be exact, representing 10,855 oilburner installations. Adding to this the 138,519 conversion oilburner sales made to change over coal fired heating, results in the total oilheating sold to replace other fuels. Burner sales in 1960 were divided:

New Homes	30.5%	157,643
Replacements	40.6	209,846
Conversions	28.9	149,374
		516,863

Oilheating dealers who cooperated in this survey also reported on what type of equipment they used to make oilburner replacement sales. During 1959 conversion oilburners alone were used in 45.6% of the replacement jobs, compared with 35.3% reported for the same type of installation in 1959. Boiler-burner units were installed in 29% of the oilburner replacement jobs and complete furnace-burner units in 25.4% of the burners installed in 1960 replacing old oilheating equipment. In 1959 boiler-burner units went into 19.8% of the replacement jobs and furnace-burner units in 44.9%.

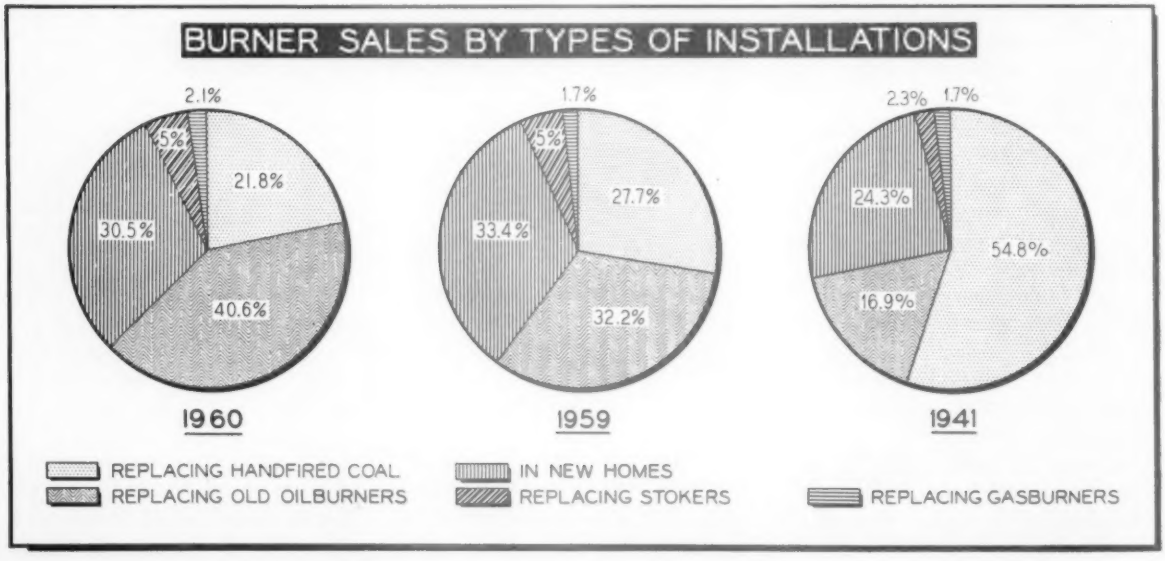
The table compiles this information on replacement oilheating jobs as reported by dealers for 1960:

TABLE 5
Boiler-Burner Units

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,000	.....	.....	1932	3,800
7,800	.....	.....	1933	11,600
9,300	.....	.....	1934	20,890
10,510	$9,511,600	.....	1935	31,400
15,025	9,781,300	.....	1936	46,250
14,430	8,557,000	$3,795,100	1937	60,240
14,220	7,877,900	3,711,400	1938	73,930
19,220	9,744,500	4,286,100	1939	92,540
26,955	13,322,700	5,005,300	1940	118,560
39,990	21,874,500	9,717,600	1941	155,720
9,313	5,289,800	2,877,700	1942	163,040
6,637	1,705,600	2,090,600	1943	164,240
6,440	3,909,100	2,002,800	1944	167,040
9,027	5,984,900	2,491,500	1945	175,165
45,130	34,765,900	18,088,100	1946	219,131
63,054	52,650,000	23,014,700	1947	277,771
42,785	40,260,700	16,600,600	1948	318,417
55,324	43,872,000	20,027,300	1949	368,286
82,141	61,687,900	26,038,700	1950	434,401
58,731	46,573,700	22,688,300	1951	480,722
69,207	53,635,000	26,783,000	1952	537,799
116,094	82,427,000	45,393,000	1953	623,513
184,512	138,200,000	68,085,000	1954	780,204
196,539	143,271,000	69,529,000	1955	929,225
191,482	144,569,000	70,274,000	1956	1,058,074
139,307	104,759,000	52,658,000	1957	1,129,075
136,397	104,752,900	53,876,800	1958	1,200,270
139,909	112,207,000	55,543,900	1959*	1,271,091
124,047	95,516,200	47,013,813	1960	1,313,752

*Revised

Prior to 1953 this table represented only the boiler-burner units reported to the Census Bureau by oilburner manufacturers. It did not include units assembled either by boiler manufacturers in their plants or field-assembled by dealers. In 1953 it included those assembled by boiler manufacturers but not by dealers. In 1960 it includes all three, estimated as follows: By oilburner manufacturers, 47,138; by boiler manufacturers, 58,302; by dealers in the field, 18,607.



	Conv. Burners	Boiler Units	Furnace Units
New England	27%	43%	30%
Mid-Atlantic	40	42	18
South	..	..	..
Midwest	64	7	29
Pacific	..	..	..
Total U.S.	45.6%	29%	25.4%

In the table, "Losses to other Fuels," there is a breakdown of the 129,267 oilburners estimated to have been removed during 1960 and replaced with equipment using competitive fuels. The total amounted to 1.4% of oilburners operating in 1960.

Oilburner sales during 1960 showed about the same division as in 1959 insofar as conversion burners, boiler and furnace-burner units were concerned. Conversion, or separate, oilburners were used in 25% of all jobs in 1960 and in 24% of the jobs in 1959. Boiler-burner units went in 24% of 1960 oilheating installations and in 22% of 1959 oilheating, while furnace-burner units continued to dominate the total picture. This equipment was used in 51% of 1960 oilheating, down a bit from the 54% reported for furnace-burner units in 1959.

Conversion, or separate, oilburners totaled 129,216 in 1960 and there were 124,047 boiler-burner units and 263,600 furnace-burner units installed.

At the end of 1960 there were an estimated 9,824,590 oilburners in use for central heating divided: Conversion oilburners, 6,014,298; boiler-burner units, 1,313,752; furnace-burner units 2,496,540. Conversion oilburners at the end of 1960 represented 61.3% of all oilheating in use, down slightly from a figure of 62% at the end of 1959. Boiler and furnace units both showed slight increases in their percentage of total oilheating. Boiler-burner units at the end of 1960 in use were 13.3% of all oilheating jobs, up from 13% the previous year and furnace-burner units advanced from 25% to 25.4% at the end of 1960.

TABLE 5 contains information on the annual sales of boiler-burner units, including retail and factory value of units, along with the number in use

Losses to other Fuels

	LOST TO Gas	Coal	Electric
New England	8,108	259	283
Mid-Atlantic	19,739	871	498
South Atlantic	2,043	54	1,223
Total East Coast	29,890	1,184	2,004
Midwest	83,259	192	2,502
Pacific N. W.	4,457	14	5,765
All Sections	117,606	1,390	10,271

Losses to all Fuels

129,267 or 1.4% of total operating 1960
109,262 or 1.2% of total operating 1959
98,023 or 1.1% of total operating 1958
133,352 or 1.5% of total operating 1957
90,137 or 1.1% of total operating 1956
75,067 or 1.0% of total operating 1955
55,604 or 0.8% of total operating 1954
46,065 or 0.7% of total operating 1953
32,734 or 0.6% of total operating 1952

What Kind of Equipment

1960* %	1959 %		Prewar %
25	24	Conversion	80.5
24	22	Boiler Units	9.1
51	54	Furnace Units	10.4

*Calculated on revised basis, taking into account overlap in Census reports of burner shipments. If a plant manufactures an oilburner and combines it with a furnace or boiler of its own manufacture, data for this equipment are reported under boiler or furnace-boiler units. If a plant manufactures a furnace, but combines it with a burner purchased from another manufacturer, data for this furnace are reported under warm air furnaces; data for the oilburner already have been reported by the burner manufacturer as a conversion oilburner. Estimates for these two years allow greater weight for reports from dealers on the type of oilburning equipment they sell.

TABLE 6

Prices of Factory-Assembled Boiler-Burner Units

RETAIL

Average	% change prev. yr.		Aver. Min.	% change prev. yr.
$593	— 8.9	1937	$516	— 8.8
554	— 6.5	1938	482	— 6.6
507	— 8.3	1939	441	— 8.5
495	— 2.4	1940	365	—17.2
547	+11.5	1941	378	+ 3.6
568	+ 3.8	1942	473	+25.1
533	— 6.2	1943	361	—23.7
607	+13.9	1944	450	+24.6
663	+ 9.2	1945	539	+19.8
770	+16.1	1946	589	+ 9.3
835	+ 8.4	1947	691	+17.3
941	+12.7	1948	710	+ 2.7
793	—15.7	1949	682	— 4.0
751	— 5.3	1950	661	— 3.1
793	+ 5.6	1951	686	+ 3.8
775	— 2.3	1952	699	+ 1.9
710	— 8.4	1953	703	— 0.6
749	+ 5.5	1954	704	..
748	..	1955	704	..
755	+ 1.0	1956	724	+ 2.8
752	— 0.4	1957	727	+ 0.4
768	+ 2.1	1958	740	+ 1.8
802	+ 4.4	1959	733	— 0.9
770	— 6.1	1960	742	+ 1.2

FACTORY

$263	..	1937	$246	..
261	— 0.7	1938	244	— 0.8
223	—14.5	1939	208	—14.7
215	— 3.6	1940	183	—12.0
243	+13.0	1941	201	+ 9.9
309	+27.1	1942	229	+13.4
315	+ 2.0	1943	231	+ 1.0
311	— 1.3	1944	216	— 6.5
276	—11.2	1945	233	+ 7.9
351	+27.2	1946	267	+14.6
365	+ 4.0	1947	310	+16.1
388	+ 6.3	1948	345	+11.3
362	— 6.7	1949	342	— 0.9
317	—12.4	1950	311	— 9.1
393	+24.0	1951	336	+ 8.0
387	— 1.5	1952	324	— 3.8
391	+ 1.0	1953	322	— 0.1
369	— 5.6	1954	322	..
363	— 1.6	1955	325	+ 1.0
367	+ 1.1	1956	340	+ 4.6
378	+ 3.0	1957	351	+ 3.2
395	+ 4.4	1958	344	— 2.0
397	+ 0.5	1959	340	— 1.2
379	— 4.5	1960	343	+ 0.9

TABLE 7

Heating Boiler Sales

	CAST IRON Total Output	No. for oil	% for oil		STEEL Total Output	No. for oil	% for oil
1935	160,105	29,310	18.3	1935	14,415	14,181	98.1
1936	186,560	41,922	22.5	1936	19,242	18,622	96.8
1937	169,707	58,462	34.2	1937	16,569	15,321	92.7
1938	135,282	54,139	40.0	1938	19,098	17,218	90.3
1939	146,919	61,070	41.6	1939	23,658	21,857	92.4
1940	168,839	77,764	46.1	1940	24,580	23,206	94.5
1941	178,076	80,176	45.0	1941	25,666	24,173	94.2
1942	111,875	10,765	9.6	1942	13,000	7,238	55.7
1943	81,500	8,852	10.9	1943	3,550	1,230	34.7
1944	75,760	19,140	25.3	1944	3,310	2,168	65.5
1945	66,740	20,088	30.1	1945	16,008	10,979	68.6
1946	161,667	46,548	28.8	1946	34,820	33,777	97.0
1947	233,905	73,279	31.3	1947	105,714	94,123	89.0
1948	180,345	61,781	34.3	1948	92,718	82,716	89.2
1949	144,275	50,495	35.0	1949	84,876	74,520	87.8
1950	194,509	76,406	39.3	1950	166,836	156,325	93.7
1951	159,007	68,214	42.9	1951	92,892	86,950	93.6
1952	187,596	89,670	47.8	1952	107,755	102,367	95.0
1953	208,644	99,706	47.8	1953	113,814	106,985	94.0
1954	208,438	104,219	50.0	1954	104,062	97,818	94.0
1955	250,126	125,063	50.0	1955	124,874	117,832	94.0
1956	237,620	137,592	57.0	1956	82,000*	73,800	90.0
1957	209,106	106,627	51.0	1957*	104,201	67,509	65.0
1958	188,195	94,097	50.0	1958*	100,234	61,340	60.0
1959*	206,931	93,119	45.0	1959*	100,267	53,915	54.0
1960	204,750	90,090	44.0	1960	96,457	50,158	52.0

*Revised

at the end of each year. At year-end 1960 there were 1,313,752 boiler-burner units operating, as a result of the 124,047 such units sold during the year. This compares with a revised total of 139,909 sold in 1959 and 1,271,091 operating at the end of 1959.

Prices of factory-assembled boiler-burner units are detailed in TABLE 6. In 1960 dealers reported an average retail price of $770 for a boiler-burner unit installation, representing a 6% drop from 1959 prices. The decrease no doubt is affected by the fact that there was some improvement in the number of smaller-sized oilfired boilers installed during the year. The smaller boilers cost less, naturally; retail prices also would be correspondingly lower.

Factory prices for boilers paid by dealers were reported at $379, another decrease, this one 4.5%.

Total cast-iron and steel heating boilers produced during 1960 dropped 2% to a total of 301,207, as compared with a revised total of 307,198 for the year 1959. Steel boiler estimates for the years 1957, 1958 and 1959 and cast-iron boiler statistics for 1959 have been revised on the basis of studies conducted by the Building Materials Division, Business and Defense Services Administration, U. S. Department of Commerce. Estimates contained in the table for these years include both cast-iron and steel heating dealers up to 350,000 Btu capacity.

In 1960 cast-iron boilers are estimated at 204,750, compared with 206,931 in 1959; steel boilers are estimated at 96,457, compared with a revised total of 100,267 in 1959.

Oil boilers totaled 140,248, a decline of 4.6%, and made up of 90,090 cast-iron boilers and 50,158 steel boilers. In 1959 there had been a total of 147,034 oil boilers produced, 93,119 cast-iron and 53,915 steel units.

Data on furnace-burner units sold during 1960 appear in TABLE 8, along with comparative figures for previous years, retail and factory values of units and the number of units operating.

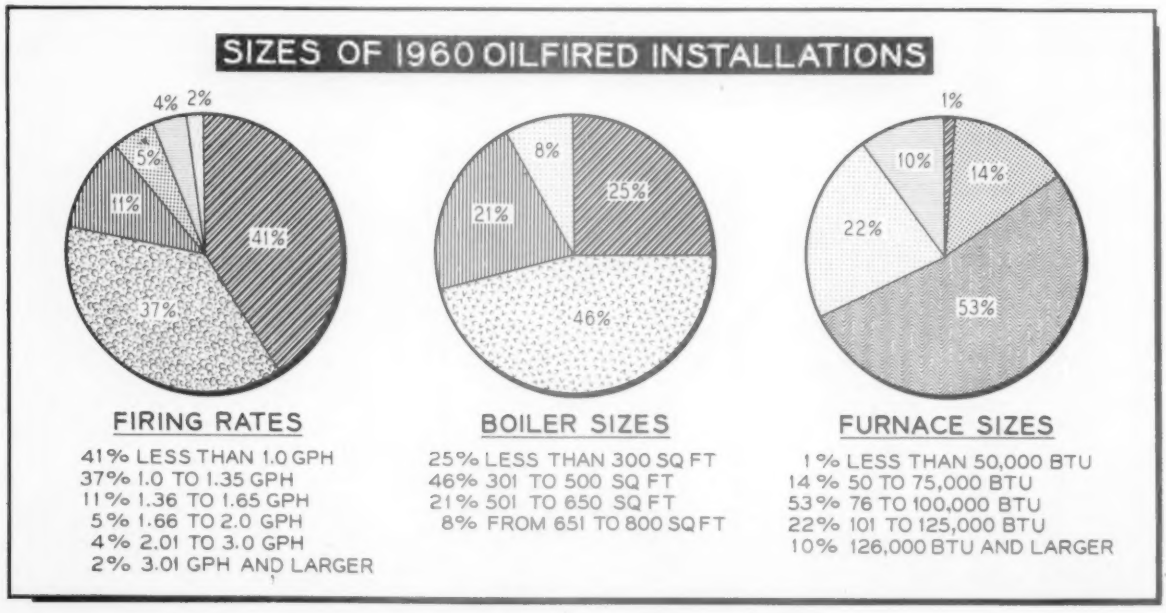
During 1960 there were an esti-

TABLE 8
Furnace-Burner Units

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,175	$2,457,400	.....	1935	5,600
7,620	5,044,400	.....	1936	13,120
11,390	6,526,500	$2,540,000	1937	24,010
11,290	6,243,400	2,427,300	1938	34,140
16,900	8,771,100	3,464,500	1939	49,850
36,410	19,115,300	7,646,100	1940	82,960
55,295	32,181,700	12,939,000	1941	133,180
18,543	8,029,100	5,099,300	1942	149,990
5,445	1,691,900	1,503,200	1943	150,750
5,590	3,471,400	1,464,600	1944	152,780
16,889	8,968,100	4,104,000	1945	167,980
38,602	25,429,000	12,293,200	1946	204,359
155,414	103,039,500	50,043,300	1947	352,002
100,290	65,389,100	30,989,600	1948	447,277
118,640	63,828,300	35,473,400	1949	554,225
156,661	95,876,500	48,878,200	1950	680,321
139,062	94,562,200	45,579,000	1951	790,000
165,629	107,327,000	54,657,000	1952	926,601
325,229	205,582,000	116,107,000	1953	1,191,936
302,600	194,572,000	92,898,000	1954	1,435,325
371,242	223,859,000	113,229,000	1955	1,716,809
347,504	207,807,000	97,996,000	1956	1,950,645
290,224	159,623,000	78,651,000	1957	2,098,565
255,743	151,655,600	70,840,800	1958	2,232,054
343,414	209,826,000	99,590,100	1959*	2,405,887
263,600	163,695,600	75,516,800	1960	2,496,540

*Revised

Prior to 1953 this table represented only the furnace-burner units reported to the Census Bureau by oilburner manufacturers. It did not include units assembled either by furnace manufacturers in their plants or field-assembled by dealers. In 1953 it included those assembled by furnace manufacturers but not by dealers. In 1960 it includes all three, estimated as follows: By oilburner manufacturers, 120,465; by furnace manufacturers, 137,072; by dealers in the field, 6,063.



mated 263,600 furnace-burner units installed, representing 51% of all oil-heating sold, compared with a revised total of 343,414 such units installed in 1959 when furnace-burner units represented 54% of all sales.

Average retail prices reported for furnace-burner units were up slightly in 1960; the average was $621, up 1.6% from the $611 reported the previous year. Average wholesale prices of furnace-burner units remained virtually the same; they were reported as $288 in 1960 and $290 in 1959.

Preliminary estimates of warm air furnace shipments during 1960 are contained in TABLE 10, including revised totals for the year 1959. Total furnace shipments in 1960 dropped about 12% to 1,258,880, compared with a revised total of 1,435,381 in 1959. All types of forced air furnaces, coal, oil and gas, were down in 1960: Coal forced air furnaces dropped 26% to a total of 10,345, compared with 13,961 in 1959; oil forced air furnaces were off 28% to a total of 234,881 in 1960 and 327,462 in 1959; gas forced air furnaces dropped 7% to 965,804 last year and 1,041,678 in 1959.

Gravity furnaces were off by 8% in 1960 when an estimated 47,850 such units were shipped, compared with 52,280 reported during 1959. Coal gravity furnaces were off 30% to 16,047; oil gravity furnaces were down 13% to 1,772 and gas gravity furnaces showed an 11% increase to a total of 30,031.

Total shipments of oil furnaces in 1960 are estimated at 236,653, representing 19% of total furnace shipments. However the total was off by 28%, compared with a revised total of 329,499 oil furnaces shipped in 1959, when they represented 23% of total shipments. Oil furnaces in 1960 were divided 234,881 forced air units and 1,772 gravity furnaces.

Activity in selling oil-powered water heaters showed a good increase in 1960, with the greatest effort being reported in New England and the Mid-Atlantic states. The indicated total of oil-powered water heaters installed by oilheating dealers in 1960 was 34,498 units.

On the average dealers paid a wholesale price of $170 for the heaters, compared with $171 in 1959. And, they sold them at a retail price that averaged $284, down from $295 average retail price in 1959. Sectional price information and weighted national averages for oil water heaters are:

	Wholesale	*Retail*
New England	$157	$306
Mid-Atlantic	168	292
South	173	232
Midwest	181	277
Pacific	..	..
Total U.S.	$170	$284

Estimates for commercial oilheating are contained in TABLE 11, including revised totals for 1958 and 1959 and comparative data for preceding years. On the basis of the 36,654 commercial oilburners estimated to have been installed for heating in 1960 there were 800,609 such units operating at the end of that year. This compares with a number in use of 767,620 at the end of 1959 based on revised estimates of 39,865 commercial oilheating jobs that year and 731,742 in use at the end of 1958, with 34,908 sales estimated to have been made in that year.

During 1960 the commercial oilheating burners in TABLE 11 included types for distillate and residual oil. Distillate units were those with capaci-

TABLE 9

Price Trends of Factory-Assembled Forced-Air Units

RETAIL

Average	*% change prev. yr.*		*Aver. Min.*	*% change prev. yr.*
$573	—13.4	1937	$499	—13.3
553	— 3.5	1938	481	— 3.4
519	— 6.2	1939	402	—16.4
525	+ 1.2	1940	360	—10.4
582	+10.9	1941	402	+11.7
611	+ 4.9	1942	413	+ 2.7
613	+ 0.3	1943	418	+ 1.2
621	+ 1.3	1944	434	+ 3.8
531	—14.5	1945	479	+10.4
659	+24.1	1946	526	+ 9.8
663	+ 0.6	1947	610	+15.9
652	— 1.7	1948	623	+21.3
583	—10.6	1949	538	—13.7
612	+ 5.0	1950	610	+13.4
680	+11.1	1951	624	+ 2.3
648	— 4.7	1952	639	+ 2.4
638	— 1.6	1953	625	— 2.2
643	+ 0.8	1954	608	— 2.7
603	— 6.2	1955	585	— 3.8
598	— 1.0	1956	585	..
550	— 8.0	1957	543	— 7.2
601	+ 9.3	1958	593	+ 9.2
611	+ 1.6	1959	583	— 1.7
621	+ 1.6	1960	590	+ 1.2

FACTORY

$223	..	1937	$210	..
215	— 3.6	1938	204	— 2.8
205	— 4.7	1939	198	— 2.9
210	+ 2.4	1940	196	— 2.0
234	+11.4	1941	201	+ 2.5
275	+17.5	1942	236	+17.4
276	+ 0.4	1943	241	+ 2.1
262	— 5.1	1944	217	— 9.9
243	— 7.3	1945	239	+10.1
318	+30.9	1946	265	+10.9
322	+ 1.3	1947	297	+12.1
309	— 4.0	1948	304	+ 2.3
299	— 3.2	1949	297	— 2.3
312	+ 4.3	1950	306	+ 3.0
328	+ 5.1	1951	316	+ 3.3
330	+ 0.6	1952	311	— 1.6
357	+ 8.2	1953	300	— 3.5
307	—14.0	1954	294	— 2.0
305	— 0.6	1955	280	— 4.8
282	— 7.0	1956	280	..
271	— 3.9	1957	269	— 3.9
277	+ 2.2	1958	269	..
290	+ 4.7	1959	270	..
288	..	1960	277	+ 2.5

TABLE 10

Warm Air Furnace Shipments

FORCED AIR

1960		*1959**
10,345	Coal	13,961
234,881	Oil	327,462
965,804	Gas	1,041,698
1,211,030		1,383,101

GRAVITY

16,047	Coal	23,136
1,772	Oil	2,037
30,031	Gas	27,107
47,850		52,280
1,258,880	Grand Total	1,435,381

TABLE 11

Commercial Oilheating

Sales		*No. Operating (End of Year)*
14,990	1935	176,240
18,435	1936	192,830
19,380	1937	210,275
13,955	1938	222,880
16,445	1939	237,680
20,710	1940	256,320
34,750	1941	287,595
55,360	1942	293,120
44,470	1943	285,045
30,705	1944	286,680
30,515	1945	288,812
40,498	1946	325,310
48,780	1947	369,210
28,433	1948	393,550
25,220	1949	414,310
34,737	1950	445,573
40,565	1951	482,088
36,417	1952	514,863
41,021	1953	551,782
37,091	1954	585,164
41,284	1955	622,320
42,414	1956	660,493
43,958	1957	700,055
34,908	1958*	731,742
39,865	1959*	767,620
36,654	1960	800,609

*Revised

ties above 6 gph. In 1960 these distillate burners are estimated to have accounted for 19,793 burners or 54% of the total; residual oilburners were used in the remaining 16,861 installations, 46% of the total. In 1959 distillate burners also went into 54% of the commercial oilheating jobs, representing 21,669 installations; residual burners were used in the balance of 18,196 installations.

On the basis of revised Census reports, figures for domestic and commercial stokers have been changed for the years 1954 through 1959. TABLE 12 contains these revisions, plus estimates for 1960 and comparative data for previous years. Available information indicates that total stoker installations in 1960 amounted to 10,947, compared with a revised total of 13,684 for 1959. These totals, as shown in the table, are made up of Class I units with capacities up to 60 lbs. of coal per hour and Class II units with capacities up to 100 lbs. per hour.

At year-end 1960 there were an estimated 492,095 coal stokers in operation, representing a net loss of 60,148 units, made up of an estimated 20,000 stokers lost to oilheating and an estimated 50,000 lost to gas or electric heating equipment.

Gas heating estimated for 1960 indicate a total of 1,170,740 installations, down 11% from the revised total of 1,320,440 reported for 1959. These are estimates based on projections made from factory shipments supplied by the Gas Appliance Manufacturers Association. Figures for the years prior to 1950 reported factory shipments without allowance for replacements, losses to other fuels or stock changes. Since 1950 GAS HEAT magazine has estimated actual sales.

Preliminary estimates of 1960 gas heating anticipate installation of 130,370 conversion oilburners, 145,025 gas boilers and 895,345 gas furnaces. At the end of 1960 there were an estimated 12,931,585 gas heating jobs operating.

TABLE 14 contains information about homes completely heated with electricity. The table contains an initial figure of September 1, 1956 and follows with similar figures for succeeding years.

TABLE 12

Domestic and Commercial Stokers

Total Sales		CLASS 1 *Bitum.*	CLASS 1 *Anth.*	CLASS 1 *Total*	CLASS 2 *Bitum.*	CLASS 2 *Anth.*	CLASS 2 *Total*	*End Year In Use*
144,758	1940	123,167	12,837	136,004	7,784	970	8,754	637,695
182,956	1941	158,734	17,110	175,844	6,513	599	7,112	802,345
79,062	1942	62,753	11,562	75,315	4,391	356	4,747	877,455
17,765	1943	4,460	472	4,932	10,790	2,043	12,833	894,330
31,603	1944	1,714	450	2,164	27,196	2,243	29,439	925,435
119,279	1945	89,522	3,525	93,047	24,349	1,883	26,232	1,029,150
181,223	1946	164,304	7,044	171,348	8,967	908	9,875	1,160,755
61,596	1947	53,372	3,364	56,736	4,469	391	4,860	1,186,195
76,477	1948	61,355	9,504	70,859	4,857	761	5,618	1,238,225
29,994	1949	21,988	4,991	26,979	2,612	403	3,015	1,235,560
19,635	1950	13,102	4,191	17,293	1,855	487	2,342	1,175,537
19,174	1951	12,451	4,268	16,719	1,941	414	2,355	1,124,945
18,801	1952	8,572	8,068	16,640	1,618	543	2,161	1,079,524
13,257	1953	6,801	4,858	11,659	1,266	332	1,598	990,855
13,455	1954*	4,868	7,143	12,011	1,032	412	1,444	893,872
13,632	1955*	3,926	8,275	12,201	1,097	334	1,431	793,751
14,149	1956*	3,883	8,949	12,832	909	408	1,317	740,760
13,666	1957*	3,743	8,776	12,519	881	266	1,147	692,482
13,744	1958*	4,797	7,983	12,780	766	198	964	624,340
13,684	1959*	4,149	8,484	12,633	784	267	1,051	552,243
10,947	1960	3,284	6,787	10,071	657	219	876	492,095

*Revised

TABLE 13

Domestic Gas Burners

Annual Sales *Conversion*	*Boiler Units*	*Furnace Units*	*Total*		*No. in Use (End of Year)*
21,687	10,201	56,666	88,554	1940	1,187,486
36,335	15,007	85,043	136,385	1941	1,310,222
6,087	10,966	29,412	46,465	1942	1,352,040
800	3,485	8,970	13,255	1943	1,363,970
3,180	5,217	12,113	20,510	1944	1,382,430
14,183	14,959	27,676	56,818	1945	1,433,570
400,000	32,500	230,000	662,500	1946	2,027,548
90,000	44,000	188,000	322,000	1947	2,297,000
48,500	30,000	193,000	271,500	1948	2,538,500
290,000	50,000	297,000	637,000	1949	3,119,600
344,275	70,455	576,270	991,000	1950	4,087,300
170,700	62,900	418,890	652,560	1951	4,677,200
234,240	60,825	452,690	747,755	1952	5,332,300
200,335	82,045	517,810	800,190	1953	6,077,200
223,550	71,115	652,530	947,195	1954	6,947,500
207,760	89,005	855,435	1,152,200	1955	7,998,800
179,980	106,000	801,130	1,087,110	1956	8,980,600
168,000	108,370	709,810	986,180	1957	9,797,800
154,350	128,060	877,040	1,159,450	1958	10,798,100
151,800	131,940	1,036,700	1,320,440	1959*	11,906,300
130,370	145,025	895,345	1,170,740	1960	12,931,585

*Revised

TABLE 14

719,300 Homes are now Fully Heated by Electricity

	Number in Use *Sept. 1 1960*	*Sept. 1, 1959*	*Sept. 1, 1958*	*Sept. 1, 1957*	*Sept. 1 1956*
Northeast	15,974	9,553	6,819	4,924	3,830
South	375,375	316,929	275,399	236,782	197,705
Midwest	72,998	54,461	36,081	26,403	16,807
West	254,953	210,757	181,844	104,110	82,915
ALL SECTIONS	719,300	591,700	500,143	372,219	301,257

	Percent of Number in Use *1960*	*1959*	*1958*	*1957*	*1956*
Northeast	2.2%	1.6%	1.4%	1.4%	1.3%
South	52.2	53.6	55.1	63.6	65.6
Midwest	10.2	9.2	7.2	7.1	5.6
West	35.4	35.6	36.3	27.9	27.5

Oilheating Dealers had a slow '60

Equipment Sales were down, but Fueloil paid the Rent for Many

TABLE 1

Most Dealers called it a fair Year

COMBINATION DEALERS SELLING OILHEATING AND FUELOIL

	Best Year	*Good Year*	*Fair Year*	*Poor Year*
New England	19%	37%	36%	8%
Metro. New York	5	53	37	5
Other Mid-Atl.	13	29	38	20
South Atlantic	..	47	53	..
Midwest	4	25	45	26
Pacific Northwest	14	22	47	17
1960 ALL SECTIONS	9%	34%	41%	16%
1959 ALL SECTIONS	16	46	28	10
OILHEATING DEALERS SELLING NO FUELOIL				
1960 ALL SECTIONS	14%	29%	36%	21%
1959 ALL SECTIONS	16	49	31	4

FOLLOWING a good year in 1959 when oilheating installations were 12% above the previous year, the oilheating dealers in 1960 experienced quite a setback. A preliminary estimate of installations in 1960 is 516,863 or nearly 19% below 1959.

Some of this was caused by the sharp decline in new home building. In this category, it is important to recognize that the home building slump was much more pronounced in the states where oilheating is strongest.

The other factor in the low installation figure was naturally the general business hesitation which was reflected in most industries that depend on "large ticket" items. Folks were more inclined to build up their savings accounts, and adopt a "wait and see" attitude.

In TABLE 1, we see that only 9% of the reporting dealers have rated 1960 as their best year. This compares with 16% who found 1959 the best so far. The number voting it a good year dropped from 46 to 34%. Those shown in the last column of the table and calling it a poor year increased from 10% to 16% which probably means that they didn't have any worthwhile profit.

These figures just quoted apply to the upper portion of the table where we have combination dealers selling both oilheating equipment and fueloil. In the lower part, the figures refer to those dealers selling equipment only and not fueloil. Here we find 21% calling it a poor year against 4% last year, but otherwise there was not as much change in this group.

These oilheating dealers featuring equipment but selling no fueloil accounted for about 44% of all oilheating sales last year while the combination equipment and oil dealer sold 56% of the installations.

The year 1960 was quite unusual in its monthly sales patterns. The Fall months did not increase at anything like the normal rate. It rather seemed that the monthly figures were on a solid line straight through the year. Some of this leveling process would result from the increasing emphasis on replacement sales.

In TABLE 2, the dealers indicate that they expect installations next year to be 4% above 1960. There is a strong sectional variation. Only in New England does the average dealer expect it to drop.

The South Atlantic and Pacific Northwest are decidedly optimistic. It is important to notice that these are the probabilities based on conditions that are visible today. If there should be a substantial increase in public confidence and consumer spending, our industry should do better than these forecasts indicate. A year ago, the dealers estimated that 1960 would be 5% better than 1959 and this prediction was realized only in the first few months of the year.

In TABLE 3, we see the scope of the dealers' business by the relative impor-

TABLE 2

Dealers forecast better Sales

	—1961 FORECAST— *Installations above 1960*	*Will be below 1960*
New England	..	7.5%
Metro. New York	1.0%	..
Other Mid-Atl.	3.7	..
South Atlantic	26.3	..
Midwest	3.8	..
Pacific Northwest	18.5	..
1961 ALL SECTIONS	4.0%	

TABLE 3

What the Oilheating Dealers sold in 1960

	DOLLAR VOLUME *Oil-heating Eqpt.*	*Other heating Eqpt.*	*Burner Service*	*Fuel-oil*	*Coal*	*Gasoline TBA*	*Plumbing*	*Air conditioning*	*Other*
New England	14%	..	7%	61%	2%	8%	1%	5%	2%
Metro. New York	7	1%	7	80	2	..	..	2	1
Other Mid-Atl.	14	2	9	60	6	6	..	1	2
South Atlantic	14	2	3	48	7	24	..	2	..
Midwest	9	10	5	51	2	13	1	1	8
Pacific Northwest	10	5	17	60	1	..	..	3	4
ALL SECTIONS									
Large Cities	8	2	7	69	3	5	..	2	4
Medium Cities	17	9	9	47	3	10	..	4	1
Small Cities	14	7	7	46	4	14	3	2	3
ALL CITIES	11%	4%	8%	60%	3%	8%	1%	2%	3%

TABLE 4

Who sells Oilheating for new Homes?

	New Homes Percent of Total Installations	SOLD BY *Factory to Builder*	*Fueloil Distributors*	*Heating Contractors*
New England	31%	11%	61%	28%
Metro. New York	24	12	50	38
Other Mid-Atl.	29	26	37	37
South Atlantic	41	24	42	34
Midwest	30	17	14	69
Pacific Northwest	35	1	56	43
1960 ALL SECTIONS	31%	16%	39%	45%
1959 ALL SECTIONS	33	20	35	45

TABLE 5

Dealers Estimate Ratio by Fuels

	1960 INSTALLATIONS *Oil*	*Gas*	*Electric*	–GAS COSTS– *More*	*Less*
New England					
Large Cities	48%	51%	1%	23%	..
Medium Cities	59	41	..	29	..
Small Cities	80	20	..	24	..
ALL CITIES	58	42	..	25	..
Mid-Atlantic					
Metro. New York	32	68	..	28	..
Other Large Cities	20	79	1	19	..
Medium Cities	53	42	5	13	..
Small Cities	52	48	..	17	..
ALL CITIES	34	65	1	22	..
South Atlantic	43	35	22	16	..
Midwest					
Large Cities	4	96	..	..	14%
Medium Cities	21	78	1	..	21
Small Cities	35	63	2	..	8
ALL CITIES	15	84	1	..	15
Pacific Northwest	32	35	33	9	..
ALL SECTIONS					
Dealer Estimate 1960	33%	62%	5%	11%	..
Actual	28	65	7	..	..

tance of the products sold by the reporting group. These percentages are based on the weighted averages of the reporting dealers and also weighted averages by sections.

In our September issue each year there appears a similar table, but there is a considerable variation in these results because the dealers are qualified in a different manner. For the September study, the qualification is that the dealer sells fueloil regardless of what else he may sell.

For this January study, dealers are asked to help because they are in the oilheating equipment business regardless of what else they sell. In the present tally, 60% of the group's dollar volume is in fueloil while in September it was 67%.

The map on this page is important. Oilheating is not a nationwide industry in any important degree of significance. There is naturally some oil heat in every state, but we see that 91% is in just half of the states by number. Thus, ours is a regional or sectional industry, and its practices vary quite a bit between the sections.

New England because of its high saturation of oilheating and its population density has arrived at the strongest degree of refinement in good oilheating practice. It also is an area where oilheating installations substantially outsell gas or electric heat. Here we find the largest percent of equipment installations made by the oil companies, highest percent of customers being serviced by oil companies, the strongest acceptance of delivery refinements and the heaviest investment per customer in cooperative advertising for oil heat.

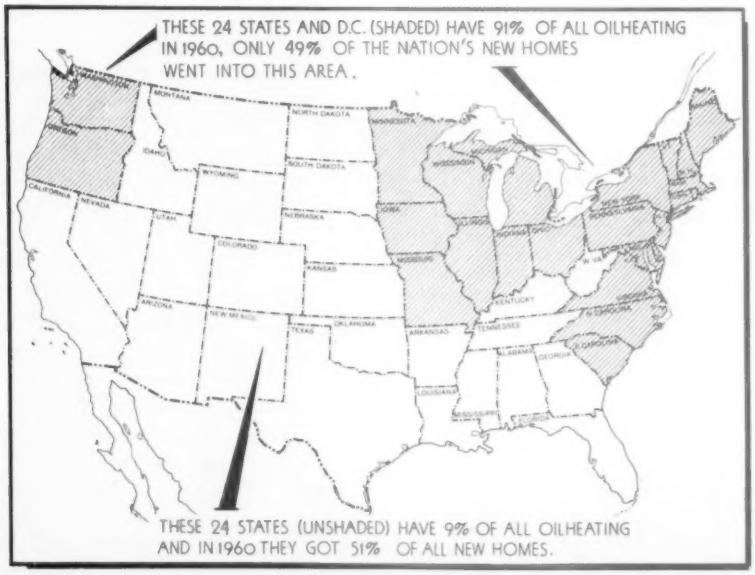
In TABLE 4, we see a separation by areas of the new home influence on oilheating growth. In the country as a whole we had 31% of all the jobs going into new homes. Then we see that 16% of new home oilheating was sold direct from the factory to the builder; then 39% of the new home installations was sold by fueloil distributors; and the remaining 45% by heating contractors. We also show a comparison with the previous year in which the direct factory to builder share dropped by 4%, and this was picked up by the fueloil distributor.

Notice in the table that the fueloil dealers sold substantially over half of the new home installations in New England and the Pacific Northwest.

In TABLE 5, the dealers estimate the relative share of installations in their markets sold in 1960 by oil, gas and electric heating. There are important variations between the different areas of the country with our strongest position being in New England and our least favorable being in the Midwest.

However, there has been some increase in gas rates throughout the Midwest as well as a large pickup in industry advertising promotion during 1960 so we should begin to show some improvement in that region.

Notice that for the country as a


THESE 24 STATES AND D.C. (SHADED) HAVE 91% OF ALL OILHEATING IN 1960, ONLY 49% OF THE NATION'S NEW HOMES WENT INTO THIS AREA.
THESE 24 STATES (UNSHADED) HAVE 9% OF ALL OILHEATING AND IN 1960 THEY GOT 51% OF ALL NEW HOMES.

whole, the dealers estimate that 33% of the installations were for oil, 62% were for gas; and 5% for electric heating. The actual installations based on the preliminary estimates of national sources for these fuels would indicate that oil got 28%, gas 65%, and electric heat 7%.

The number of salesmen for oilheating equipment was almost the same as the total number of dealers taking part in this study. However, only 48% of the dealers had salesmen on equipment so they averaged about two men each. The other dealers either got their equipment sales through the efforts of the boss or the service department.

Those dealers having one or more salesmen averaged 61 oilheating installations. Those without salesmen averaged 22 installations each.

This year as in earlier years, the salesmen working on a straight commission basis earned more than those in the other categories as seen in TABLE 6. There was not, however, a very significant difference and a study of this whole table indicates that the salesmen in our industry earned about $6,500 during the year. It is obvious that these earnings did not come from the single source of oilheating equipment sales. They sold some other types of heating equipment, they also sold service contracts, and with a lot of the companies, they were given some income from the oil sales that their new equipment jobs produced.

It is interesting to notice that their 1960 income was less than 1% below 1959 although new installations were off materially. Apparently, the nature of the work in selling oilheating requires about a $6,500 average income for the nation as a whole to hold the type of men to do the job. There are occasional dealers in all parts of the country who use quite high priced men and are convinced that they gain by doing this. They are usually dealers selling deluxe lines of equipment where the sales cost is not too important if the man is a good persuader.

Specifically, two large dealers have told us that their men average $12,000 a year, but in each case they sell expensive equipment and their companies are deep-rooted in the market.

The question of commission rates is a good index of dealer thinking and pricing policy. Just under three-fourths of the dealers pay a flat 10%, which has been traditional in the industry. On the other hand nearly a fourth of the dealers using commission men pay them 15% and most of these were from the Midwest or the Pacific Northwest. Some dealers pay a share of the gross profit on the job. Typically this runs a third. Gross profit is the sales price less all direct material and labor charges on the job.

TABLE 7 shows dealer activity in advertising during 1960. The first column of the table simply shows the share of dealers using various types of media. After that it is a little more complex. Remember that most of these dealers, in addition to oilheating equipment, also sell fueloil and service. The figures in the second column represent the total amount spent by the company advertising all products but divided only by the number of burners installed. The dealers have no uniform method of separating this as to products since most of the ads refer to all items.

We do attempt in the third column to assign a figure for the amount of advertising outlay that can be attributed to oilheating installations. We do this by estimating the value of equipment sales related to total sales based on the percentages shown in TABLE 3.

Some of the advertising outlay is used for the cooperative campaigns which are operating now in 74 markets of which four are complete states. We make a separation in our September issue study where we showed that about 20% of a dealer's advertising budget went into the cooperative campaigns.

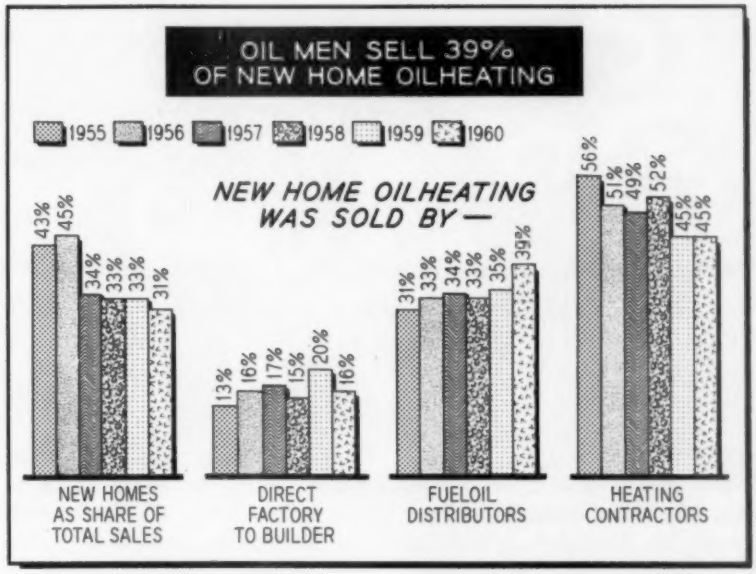

OIL MEN SELL 39%
OF NEW HOME OILHEATING
1955 1956 1957 1958 1959 1960
NEW HOME OILHEATING
WAS SOLD BY —
43% 45% 34% 33% 33% 31%
13% 16% 17% 15% 20% 16%
31% 33% 34% 33% 35% 39%
56% 51% 49% 52% 45% 45%
NEW HOMES AS SHARE OF TOTAL SALES
DIRECT FACTORY TO BUILDER
FUELOIL DISTRIBUTORS
HEATING CONTRACTORS

TABLE 6

Salesmen average $6,502 Income

	Percent	*Average Income*
Salesmen on Commission	15%	$6,751
Salary and Commission	42	6,590
Straight Salary	43	6,325

	All types by Areas Earned 1960
New England	$6,089
Metro. New York	7,604
Other Mid-Atl.	6,040
South Atlantic	5,930
Midwest	6,116
Pacific Northwest	6,482
1960 ALL SECTIONS	$6,502
1959 ALL SECTIONS	6,545

TABLE 7

What they Spend for Advertising

	Percent of Dealers Using	*Spent per Burner Installed*	*Charged per Burner*
Newspapers	84%	$38.70	$2.96
Direct Mail	61	19.36	1.39
Tel. Directory	83	11.37	.95
Radio	37	18.78	2.23
Billboards	9	21.50	2.12
Television	11%	23.32	2.86
1960 Weighted Average		$65.20	$5.45
1959 Weighted Average		49.93	6.06
1958 Weighted Average		55.24	7.21
1957 Weighted Average		43.51	7.11
1956 Weighted Average		30.85	6.87

Twenty-five Years of automatic Deliveries

Efficient Delivery of Fueloil started in 1936 when the first Whistle blew on a customer's Tank. Since then Scully has improved delivery Methods and still is working to improve them.

JUST 25 YEARS AGO, in 1936, the first whistles blew as feuloil was being sent into tanks of oilburner owners. The whistles were in Scully VENTALARM signals, the liquid-level indicators that Frank P. Scully, Sr. first offered to the fueloil and oilheating industry in 1936.

Thus this year of 1961 has special significance for all men concerned with the sale of fueloil, the sale of oilheating equipment, and especially the problems related to retail sales and deliveries of fueloil. In this year is celebrated the 25th anniversary of the VENTALARM signal, the remarkable invention whose first use started really efficient retail deliveries of fueloil.

Use of the VENTALARM signal permitted the driver of a fueloil truck to fill a customer's fueloil tank properly, accurately and precisely up to the proper level, without first measuring how much oil was in the tank to start out, without having information on the size or location of a basement tank or a buried tank, and without a dozen kinds of worries which he had before VENTALARM signals were used.

A couple of other ideas for permitting filling customers' tanks quickly without worries had been suggested, and one or two had even been put to small-scale use, before Scully's whistle appeared on the market. But his whistle idea was so well suited to its purpose that once it appeared in 1936 it had no competition.

The first use of the VENTALARM signal, in 1936, revolutionized fueloil delivery methods, established a completely new pattern for them, by providing these advantages:

1. It eliminated entry of the fueloil truck driver into a home having an inside tank—entry previously necessary for checking the amount of oil in the tank before delivering oil.

2. It proved the fueloil being delivered was going into the right pipe.

3. It indicated that the storage tank would accept the oil.

4. It indicated the vent line of the tank was clear—entry of the first quart of oil into the tank produced a whistle sound.

5. It gave assurance that the top of the tank was sealed . . . had no plugs missing from top openings, and had no air leak caused by a broken tank gage.

6. It resulted in filling the tank to a predetermined degree, which was the same for each delivery, and which was of great advantage with relation to use of the automatic fueloil delivery system.

7. It gave this additional benefit related to automatic deliveries: Every gallon of oil delivered represented oil used since the last delivery.

8. It provided the proper air space above the oil in the customer's tank upon completion of the delivery, 15 gallons of air space to allow for possible oil expansion, and to avoid weeping of oil around any fittings at the top of the tank not 100% tight.

9. It permitted making oil deliveries any time, even with the occupants not at home, as it eliminated need for the truck driver to enter the house.

10. It permitted double-shift operation of fueloil trucks, thanks to elimination of the need of drivers to enter homes, and resulted in many companies operating trucks from 7 AM to 10 PM during coldest months.

11. It makes tight connections between fill pipes and delivery hoses feasible and safe.

Out of all these advantages came a terrific increase in the amount of oil which a given truck could deliver, and which a given fleet of trucks could deliver.

The first company to install VENTALARM signals for all customers was the Briggs Oil Company, Swampscott, Mass. At its own expense, which expense actually represented a highly profitable investment, this company installed the signals for 1,700 customers in 1936.

As the next big event related to these developments, in 1937 the Standard Oil Company of New Jersey, after using VENTALARM signals at three test locations, ordered 20,000 and installed these for all its fueloil customers. Owners of tanks already installed, and purchasers of new oilburner installations, all received the VENTALARM signal benefits at no charge.

Frank P. Scully, Sr., reporting these events recently, said that the Standard Oil Company of New Jersey in those years used certain delivery trucks for gasoline in summer and for fueloil in winter . . . and found that the one step of turning to the use of the VENTALARM signal increased the delivery of fueloil by these trucks by 1,000 gallons of fueloil per day, and cut the time a truck stopped at a customer's house from 17 minutes to 10 minutes.

Before the VENTALARM signal, Scully says, use of the call-in system

Frank Scully, Sr. (center), president, Scully Signal Co., Melrose, Mass., looks over a VENTALARM fill signal with his sons, Frank, Jr., left, and Robert, right.

was almost universal; that is, customers called in or phoned when they wanted fueloil delivered, just as for years coal customers had phoned for coal when they needed it.

Use of the call-in system, Scully goes on, made every fueloil customer a dispatcher of oil trucks. A company with 1,000 fueloil customers had 1,000 truck dispatchers ordering oil trucks around in a willy-nilly fashion. Just as taxicab customers order cabs around, oilburner owners ordered big fueloil trucks around, often with the result that a truck made a special trip of 15 or 20 miles to deliver 150 gallons of oil.

The use of the VENTALARM signal together with the use of the automatic fueloil delivery system changed all that. Usually oil companies switched to the VENTALARM system and to automatic fueloil deliveries at the same time, as these two improvements in oil delivering went together; to perform best, each of these improvements needed the other.

In the late 1930's, many oil companies had a terrific sales pitch based on their providing VENTALARM signals for their new fueloil customers, Frank P. Scully, Sr. explains today. These companies declared that their customers did not have to put up with a man entering the house each time oil was delivered, and enjoyed fueloil deliveries as automatic as the delivery of gas, electricity, and water.

The manner in which these new developments avoided fueloil-spill trouble and damage is a topic by itself. Until the VENTALARM signal, the greatest headache of many fueloil companies was the damage caused by fueloil squirting from vent caps or pouring out of fill lines after drivers had tried putting into customers' tanks more oil than they could hold. Hundreds of funny stories still are told about that, together with stories of tragedy and great financial losses.

Growing in size and specializing in methods and equipment for rapid, efficient delivery of fueloil to retail customers, the Scully organization next pioneered, it explains today, in the use of equipment for tight connections between delivery hoses and customers' fill lines or fill boxes.

It originated the FASFILL system in April, 1938, which it recommended only for customers' tanks having VENTALARM signals.

The FASFILL system permitted making up tight fill-connections in seconds without the use of tools, did not use pipe threads or other threads for oil-tightness, but used an O-ring for its seal . . . and standardized all customers' fill connections so that one size hose-nozzle at the end of the truck's delivery hose fitted all storage tank connections.

Still used by some fueloil retailers, the FASFILL system has been supplanted substantially now by the UNIFILL system, described by the Scully organization as even more efficient than the FASFILL system proved to be.

As has been indicated, the Scully organization grew. Today, Frank P. Scully, Sr., president of the Scully Signal Company, has two vice-president sons working with him, Frank P. Scully, Jr., and Robert G. Scully.

These Scully men have much to tell about their UNIFILL system, developed starting in 1946, and first sold in November, 1955 . . . before which time they had tried and discarded many ideas and designs.

They tell of the first company to use the UNIFILL system preparing a report after using it five years.

A five-year Report

This company's report says that since its original installations of the UNIFILL equipment five years ago, and supplanting use of FASFILL equipment, it never had to replace an adaptor, cap, or nozzle connector.

"The original adaptors and caps are still in use and show no signs of wear," the oil company reports.

The three Scully men emphasize a thing of this kind no end, since the durability of every piece of equipment they make is their prime boast, and is their objective they say.

This oil company report goes on to say that it has not had one, single, insurance claim for oil-spill damage in the five years it has been using the UNIFILL system. Each of its trucks delivers one and one-eighth million gallons of fueloil a year, and 95% of its customers have 275-gallon tanks.

There are more details in this company's report. When it first decided to use the UNIFILL equipment, the report says, the company had the drivers install each customer's set-up during the heating season. The report states that a truck driver would stop at a customer's house and do two things, install a UNIFILL set-up and make an oil delivery, and that doing both things worked out to take no more time than simply making the oil delivery. That's in the report from this oil company.

Frank P. Scully, Sr. says that turning to the use of tight connections, alone and by itself, does not end all problems of filling customers' tanks fast.

"For one thing," he says, "a properly designed and approved signal, a VENTALARM signal, is essential.

"For another thing," he goes on, "there's been a tendency to neglect entirely the necessity of vent caps to have adequate area—and to have no screens in them. The National Fire Protection Association rules out the use of screens in vent caps."

A vent cap for the vent line of an oilburner installation seems a small thing for a large organization to make much of, but the Scully organization does emphasize a vent cap it developed and is manufacturing. For the little thing, there are two big boasts, both rated as important: 1) It is acoustically designed to increase the whistle sound coming from a VENTALARM signal; 2) It has one and one-half times more area than the internal area of the pipe it goes on.

Specialists at efficient, fast, delivery of fueloil to retail customers, the Scullys have this advice for fueloil retailers.

In setting up for efficient deliveries, first make certain each customer is set up properly with:

1. A VENTALARM signal

2. A permanent type of adaptor on his fill line—oil tight, not requiring the use of hand tools, and well able to withstand high pumping rates without any chance of leaking.

3. Proper venting of the oil storage tanks, which can be gained in four cases out of five simply by installing a simple but excellent vent cap.

Fitting up customers' installations properly is the first step, the Scully men declare, but certain oil companies have started at the wrong end, in working towards modernization, by concentrating first on their trucks. These Scully men say that obviously a new oil truck designed throughout for efficient delivery of fueloil cannot produce its potentialities if the customers' installations are not suitable for efficient deliveries . . . so first go through the three steps just listed, and modernize customers' installations.

Next, the Scully advice to fueloil retailers goes on, take these steps to make each fueloil truck able to deliver efficiently:

1. Equip each truck with a truly modern delivery nozzle for its hose line.

Scully Senior says, "Because their importance was not recognized, delivery nozzles were improved little over the years. Price was the thing . . . the buyer of a $12,000 truck quibbled over $5 extra for a nozzle.

"Most oil company men had little knowledge of the flow restrictions of the nozzles they used, and of the shocks transmitted to the truck components when these nozzles were turned off.

Slow-closing Nozzle

"I pioneered in bringing out a truly slow-closing nozzle for fueloil delivery. It's capable of giving a trickle, or full-flow, or anything in between."

Scully Senior says that the few extra dollars an excellent nozzle costs is repaid every few weeks by increased oil flow and by reduction of maintenance of trucks' components including the hose, pump, and meter. He describes his Type COM nozzle as combining a repairable swivel, a nozzle, and a check valve—all in one unit that weighs surprisingly little compared to a conventional nozzle plus its separate swivel and check valve. He describes his nozzle as acting as an excellent shock suppressor, and he says that oil pressure on the nozzle does not affect its ease of opening and closing.

2. Equip each truck with the SCULMATIC nozzle flow-control, recently brought out, which causes the truck engine to idle while the oil-pump power take-off is engaged and the hose nozzle is closed. The hose is limp when the driver takes the hose nozzle to the customer's fill connection. . . because the pressure in the hose is low. As the hose nozzle opens, the truck-engine speed automatically increases, speeding up the truck's oil pump properly for pumping off fast. This flow-control device can return the truck engine to idling speed, as the delivery of oil is completed, in a split second . . . before the nozzle is closed fully.

(*Please turn to page* 87)

The boiler-room equipment in this photograph includes the Scully FAYLSAFE monitoring equipment mentioned at the end of the article. In the center of the picture is William G. Rowell, Scully vice president in charge of engineering; he is holdng a FASLITE torch, a gas-electric ignition assembly made by the Scully Signal Company for commercial-industrial oilburners. On the control panel to the left of Rowell is an electronic oilburner primary control, the components of which are checked once every second, while the oilburner is running, by the Scully FAYLSAFE monitoring equipment. This was installed November 17, 1954. From then until July 21, 1960, (the end of a period during which data were being collected) the pulsing relay of the FAYLSAFE set-up verified the burner control operation a total of 95 million times! The boiler is in use every day of the year. It serves the factory of Polaroid Corporation, world-famous producer of the "picture-in-a-minute" camera that recently became the "picture-in-ten-seconds" camera.

Fueloil goes to School

Bids for two identical Schools reveal interesting Facts about electric Heating

In the Fall of 1959 E. F. Klingler & Associates, architects and engineers, Eau Claire, Wis., designed Lindgren Elementary School, Ellsworth, Wis. The firm prepared two complete sets of plans, one specifying an oilfired warm air heating system, the other including electric heat.

More than 40 prime bids were submitted. Here are samples of the base bids for general construction, including both types of heating:

With warm air heat	*With electric heat*
$ 98,856	$ 99,168
108,040	109,040
117,628	117,000
102,000	102,300
110,700	111,300
104,893	105,422

Similarity in heating bids alone also was noted. Here are five bids, submitted by different companies, of course, for both types of heating. The electric heat cost was obtained by deducting "electrical construction, only" figures from those submitted for "electric heating and ventilating combined with electrical construction."

Warm Air	*Electric heat*
$27,108	$26,767
25,548	25,370
24,925	24,311
27,995	25,558
26,445	25,794

by Kenneth M. Wilson*

TODAY WE ARE being offered a new method for heating homes and schools—that of heating by electrical resistance. Cold analysis of the facts surrounding the use of electricity as a heating media, leads many engineers to believe that this idea probably has a better chance of revolutionizing our approach to heating problems than anything since the development of oilburners.

However, it is most unfortunate that this idea is being sold to the public with exaggerated claims, half truths, unsound and unproved cost figures so that many of the real and potential advantages of this idea are being lost or obscured.

It was as a direct result of school administrators being subjected to these questionable methods of promotion that led our firm into making a somewhat comprehensive study of the application of electricity as a means of heating and ventilating elementary schools in this area of the country.

Having kept very accurate cost records of every school building we have designed in the last several years, we know that there is a definite initial cost ratio between each of the several systems.

For example, our records show that a school building designed around a first class warm air furnace heating and ventilating system can be constructed for about 3% less in total initial cost, than an identical building designed to utilize variable temperature hot water heat with either a central fan system or unit ventilators.

We also know that a third identical building designed to utilize low pressure steam, will run about 5% to 7% higher in total initial cost than its identical twin designed for warm air heat. To be sure there are basic advantages and disadvantages to each of these systems.

Over a long period of time, we have examined the cost of operation of typical school heating plants. These studies have produced a rather good rule of thumb. In a typical Wisconsin school utilizing heavy fueloil, take the net cost of the fuel used per season, plus the net cost of gas, natural or propane, used for fuel ignition; add to this a labor increment of $4.84 per thousand gallons of fueloil for labor in cleaning, repairing and operating the equipment; then add another increment of $2.02 per thousand gallons of oil for electric energy to operate the firing apparatus, and you will arrive at the total cost of heating the building for a full season.

Divide this cost by the square feet of floor area in the building and you will invariably wind up with an annual cost per square foot of floor area that is almost exactly equal to the price of one gallon of fueloil. In other words, to heat and ventilate an elementary school for one season it costs the same as one gallon of fueloil per square foot per year.

In schools utilizing light oil, Number 2 or 3, we found that the labor factor could be pegged at $4.57 per 1,000 gallons of oil; electric energy at $1.67 per 1,000 gallons; costs for the season still wind up to be very nearly equal to the price of one gallon of oil per square foot per year.

Specific examples of this during the 1958-59 season are as follows:

High School
238,367 sq. ft. area—cost per year
10.24¢ per sq. ft.
Cost of No. 5 fueloil 10.34¢ per gallon

Elementary School
13,700 sq. ft.—cost per year
13.65¢ per sq. ft.
Cost of No. 3 fueloil 13.51¢ per gallon

Elementary School
8,890 sq. ft. area—cost per year
14.61¢ per sq. ft.
Cost of No. 3 fueloil 14.65¢ per gallon

*Chief, Electrical and Mechanical Engineering Division, E. F. Klingler & Associates, Inc., architects and engineers, Eau Claire, Wis.

These patterns are close enough to use as a basis for predicting the probable heating cost of any school building in this area.

The foregoing remarks may not seem to have any bearing on electric heat. They are stated to point out and emphasize that for several years we have known with reasonable accuracy, what initial and operating costs to expect for heating plants used in school buildings.

We first encountered suggestions from clients to consider utilizing electricity as a direct source of energy for heating and ventilation of school buildings about five or six years ago. We made a very simple comparison of costs based on power at 2¢ per kw as opposed to fueloil at 15¢ per gallon, and found that on this basis it cost approximately 35¢ to produce as much useful energy direct from electricity as it did from 15¢ worth of oil.

Interest in electric Heating

In the intervening years we have encountered more and more clients who were intensely interested in electric heat for their schools. This is particularly true in areas served by Electrical Cooperatives or REA organizations. These groups were quick to point out that, while operating costs were known to be higher than for fossil fuels, if electric heat were utilized, we could eliminate not only the boiler or furnace, but also the chimney, fuel tank and the boiler room as well. They were convinced that these omissions, plus the elimination steam or hot water pipe lines would more than take the curse off high priced kilowatts that would be used as fuel.

In at least four or five projects, we found it necessary to set up rather detailed estimates to establish specific differences in operating costs and initial costs as well, before a client would take a position one way or another. Invariably, when a decision was reached, it was to stay with the conventional methods. The decision was always reluctant, and we found in each case, our client was not more than half convinced that he had made the right move.

Our studies had indicated that in school plants there would be a slightly higher, not lower, initial cost to set up an electric heating system than the conventional type of plant. Almost no one would believe this. We could not get around the mental block created by the fact that, with electric heat, we could leave out the boiler and chimney.

Two identical Schools

After encountering this problem in several areas, we decided that the only way to settle the matter of initial cost was to design a school building with both types of heating plants applied to the project, take firm bids on both plans, and compare the results. The opportunity to do this presented itself in the Fall 1959 when we were commissioned to design the Lindgren Elementary School at Ellsworth, Wisconsin.

The school which was designed consisted of six standard classrooms, office suite, kindergarten, two special classrooms for handicapped students, hot lunch kitchen, multipurpose room and the required storage areas, toilets, corridors and service area.

It was decided that the conventional plan would utilize a central warm air furnace with all air ducts run underfloor and with air supplies delivered to the classrooms through bookshelf storage cabinets running wall to wall on the exposed side of the room. Each classroom was to be under individual thermostatic control, and cycled by a seven day time clock. Exhaust ventilation was to be accomplished with power ventilation fans under automatic control. Fuel was No. 3 furnace oil with underground storage of 7,000 gallon capacity.

The electric counterpart of this school, which had exactly the same number and size of rooms, utilized individual room unit ventilators in each classroom, complete with wall-to-wall storage cabinets, electric resistance convectors in corridors and toilets, identical ventilation fans, all under individual thermostatic control in each room, and the whole being automatically cycled on a seven day clock.

We prepared two complete sets of plans and two complete sets of specifications. On the conventional plan we designed the heating system the same as we have on half a dozen schools in the area. For the school utilizing electric heat, we invited the electric utility company, which would furnish the power, to criticize our plans, and we offered to make any change or incorporate any material or idea which they felt might be to their advantage in putting over the idea of electric heat. They availed themselves of this opportunity to the fullest extent.

As a further step, we invited a third party, a practicing professional electrical consulting engineer, to make a similar criticism of our design for an electrically-heated school. After modifying our plans to the satisfaction of all parties concerned, the plans and specifications were released to contractors, and bids were received on January 27, 1960 for both systems.

At the Utility's Expense

At the time plans were finally released, the power utility had agreed to furnish and install at their own expense, an underground entrance service, some 100 feet in length, to bring 7,800 volt, three-phase power into the building; to furnish and install load interrupting high voltage switch gear; transformers to reduce voltage to 208 volts; secondary bus ducts from transformers to circuit protective apparatus; a complete system ground grid; and to furnish and install the central circuit breaker panel which would provide overload protection for the electrical conductors to the individual heating units. While we did not obtain a specific figure on the value of this equipment furnished and installed by the power utility, it was estimated to represent at least $9,500 of cost.

Interest in this project was unbelievably high. It was in essence, a showdown on two opposed ideas in heating. It is a matter of record that more than 40 prime bids were submitted on this project, whose total construction cost was not expected to exceed $150,000. When the bids were finally opened, read and tabulated, we found only about 15% spread between the high and low bids. The lowest qualified bids on all branches of construction for the plan employing a warm air heating plant, totaled to $149,172. The lowest pairing bid for the plan employing electric heating totaled to $149,491.

To arrive at a fair comparison of

values between the two plans, we feel that the estimated $9,500 provided by the electric utility in service entrance equipment should be added to the price of the unit utilizing electric heat. This would have made the final total cost read $158,991 for the electric heat plan, as opposed to $149,172 for the warm air plan.

So far as we have been able to learn, this is the only instance where plans of identical buildings, differing only in the method of heating, have been brought into actual bidding procedure to establish a direct comparison of initial costs. A breakdown of the building dollar—initial cost, shows:

	Warm Air %	*Electric* %
General Construction	66.2	62.5
Plumbing and sanitation	7.2	6.6
Lighting and general electrical distribution	9.9	9.3
Heating and ventilating	16.7	21.6
Cost—sq. ft. floor area	$11.12	$11.93

Estimated operating cost, based upon cost of No. 3 oil for last season and electric power rate of 1½¢ per kwh plus a demand charge estimated at .2¢ per kwh. Warm air: $1,870. Electric: $2,696.

About 1½ years ago, a high school was completed in Fountain City, Wis., which was designed by a firm of architects from Madison, Wis. Flectric resistance heating was utilized in this building, and here too the power utility provided a very substantial amount of entrance apparatus. Notwithstanding this contribution, the costs work out to $11.25 per sq. ft. floor area. I checked the general quality level of materials, finishes, equipment and utility. It compares with buildings that our firm has designed with conventional heating plants, for almost identical unit costs.

Now you can reasonably ask the question, "What does all this comparing prove?"

The answer is, it proves nothing at all. It does, however, offer one specific instance of factual backing to the contention that many practicing consulting engineers and architects have made, that there is no saving in initial costs in school plants utilizing electricity as a heating media. There is no comparison in the cost of operation.

Therefore, it makes one wonder why there is any discussion of electric heat in schools at all. Here we come back to the idea of promoting an idea on an "appeal" basis rather than on sound economy value. Here is where we bump into the "half truths" that are utilized so freely by uninformed electrical contractors, by sales representatives of firms marketing resistance heat equipment; by utilities anxious to crack the electric heat market; and finally by uninformed designers of electrically heated buildings.

Half Truths

Here are some classic examples of these half truths.

If you heat with electricity, you need no boiler or furnace room and no chimney. This is true, but it is only half the truth. The other half, which is never told, is that with electric heat you do need a transformer vault which normally costs more than a boiler room.

Another one is, you need no boiler, oilburner or fuel tank. This is half true. The other untold half of the truth is that you do need transformers, load interrupting switchgear and over-load protection, which usually costs more than the pairing mechanical equipment.

Here is a third one. With electricity you need no hot water or steam pipes to the heating unit. True enough, but you do need conduit filled with copper wires to feed the electric heating unit.

Another pitch is to point out that with electric heat, each room is individually controlled by its own thermostat, thereby inferring that other systems do not provide this feature. Individual thermostatic control of each room in a school building, regardless of what kind of system was used, has been a flat code requirement in Wisconsin for more than 15 years.

Another classic among half truths is that if you use electric heat you add more insulation and hence need less heat energy and thus can afford to pay more for the power to produce heat. The inference is then that you need less Btu's of electric heat than you would of heat generated by oil, coal or gas.

All of this kind of promotion does far more damage than good to the presentation of the idea of electric heat, and to me it seems rather a shameful thing to see a basically sound idea promoted with such reprehensible methods.

I do not believe there is a place in the design of today's educational building to utilize electricity as a means of heating and ventilation unless the cost of electric power is brought down to where it can compete on even terms with the fossil fuels. This means a power rate of something like ⅞¢ per kwh without penalties of demand or fuel charges.

Mention of demand charges should remind you to never accept the basic kwh rate quoted by the utilities at its face value. Be sure you understand the workings of demand charges and fuel charges which are usually added. These little sneaker items will nearly always add more than 1/10 of a cent per kwh to your energy costs, and sometimes will add nearly a half a cent. If you fail to consider these hidden costs you can look awfully silly in estimating operating costs of electric heating.

Wide Changes possible

There is, however, every reason to watch for wide changes in the next few years, any one of which could completely change the economic side of electric heat. One reason: the prices of fossil fuels and natural gas have increased steadily in the last two decades. During the same period, the cost of electric power has, at worst, remained the same, and in some areas has actually decreased.

With power utilities the annual power peak can and does change. School heating could be responsible for more favorable loading, resulting in more favorable rate schedules. Electric heating equipment is being constantly redesigned to take advantage of power produced during off peak hours.

The picture on the use of electricity as a heating medium or as a fuel is indeed one which will bear close watching, and it is full of promise. It is equally full of damaging propaganda. It is my hope that this discussion will help you to be alert to the potential of this picture and at the same time be discriminating enough to sort out the fact from fancy, to present this entire idea to prospects on the honest, straightforward and factual basis that this idea deserves.

The Grass is always greener

Liquid fertilizer Promotion by Allied Oil provided Summer solution to idle Men and Trucks

by Ed Marquard*

FOR YEARS the problem of what to do with idle people and idle trucks in summer has plagued many fueloil marketers. In 1954 Allied decided to solve the problem by selling liquid fertilizer to the homeowners of Greater Cleveland. It seemed like the best possible complement to our fueloil business.

We proceeded cautiously the first summer, concentrating on sales to local employees and doing no advertising. As a division of Ashland Oil, we had a sizable group of personnel on which to base a test. The test program was highly satisfactory, and in the second year we began a full program of selling and merchandising liquid fertilizer.

Now, how have we done in this "green grass department? Well, in 1959 the square footage covered by our liquid fertilizer applications totaled 59 million sq. ft. and our sales amounted to $120,000.

At our peak season we operate as many as eight units in our fertilizer operation. One is shown in the picture.

And, 74% of our customers contract for three liquid fertilizer applications each season. These are made at six to eight week intervals. A few of the customers take four to six applications.

The following table summarizes the steady growth that we have realized since 1954.

Year	*Number of Applications*	*Square Feet fertilized (In Millions)*
1954	390	.5
1955	4,000	26.0
1956	6,200	32.0
1957	7,400	41.0
1958	8,500	45.0
1959	11,000	59.0

In 1955 we started to advertise in newspapers, over radio and television, and by direct mail. We had an excellent list of prospective customers from our winter sales of fueloil. In addition to general advertising and special mailings, we staged a highly successful sales contest with substantial cash prizes for employees obtaining new customers. The contest generated a lot of enthusiasm, even among the employees of affiliated divisions of the Company. By the end of the 1955 season, we had established ourselves in the liquid fertilizer field with Allied "Lawn Food," and had gained valuable experience as well as a large group of customers.

Over the past few years we have experimented considerably with our advertising in order to determine the most effective balance. We started with 10,000 pieces of direct mail the first full year, and in the interim have gone as high as 50,000 pieces. Now we find that about 40,000 pieces of direct mail a year serve for this area. Our advertising expenditures have varied from $10,000 annually to $20,000 and currently are established at about $18,000 a year.

We have learned that it is highly important to plan all advertising in detail and early, prior to the Christmas holidays. Our campaign begins as soon as we get a couple of sunny Sundays . . . the kind that starts the man of the house thinking about his yard. Service renewal cards to our previous year's customers are sent out early, sometimes in mid-February. Three weeks after the first mailing we send a follow-up, and by mid-March every previous account which has not been renewed receives a personal telephone call from one of our employees. We start applications of fertilizer by April 1, if the weather permits, and usually continue through September 30.

The industrial plants in our area are one sales field which we have found to be a lucrative and potential market toward making our liquid fertilizer operation a success. Most of these plants are interested in making their grounds and shrubbery as attrac-

*Manager, Heating Oil and Liquid Fertilizer Depts., Allied Oil Co., Cleveland, Ohio.

tive as possible, and are excellent prospects for contracts to fertilize their properties. The value of their business is evident when you recognize it is measured in acres instead of square feet.

The physical changeover required to sell liquid fertilizer is no major problem. The conversion of truck equipment from one product to another in the spring months and again in the fall or early winter months is neither a costly move, nor is it complicated. We simply remove our 1¼" ID or 1⅜" fueloil hose and replace it with 200 to 300 feet of ¾" ID garden hose, equipped with a fan spray nozzle.

Once you make sure that your pump will deliver approximately 13 to 15 gallons per minute at the nozzle, you're in business. If this rate can't be attained with existing equipment, you may have to resort to a centrifugal pump powered by a "donkey engine." We use the same equipment in making our heating oil deliveries.

All traces of the other products must, of course, be removed from compartments and manifolds when converting to heating oil or to liquid fertilizer, but this can easily be accomplished through the use of caustic sodas and other cleaners.

In our operations all direct expenses involved with liquid fertilizer sales are charged against this portion of our marketing program. Charges include the cost of the product, labor, truck operation, advertising and promotion and all special equipment required. In addition, our fertilizer department is charged for the equivalent of six months of our annual truck depreciation costs. The operation has been profitable, and we have been able to keep most of our equipment in operation on a 12-month basis, while retaining most of our experienced drivers. This second factor eliminates a costly rehiring and training period at the start of each heating season.

We keep records each year indicating how sales originate, so we can be guided the following season as to what advertising media secured the best results. These findings are broken down into percentages, and most of our advertising expenditures are based upon information obtained the previous year.

Allied's product has been well received by the majority or our customers. For the record, however, we should point out that we do have a small percentage of complaints. These are to be expected, for the success of any lawn fertilizer is dependent not only on proper application of the product, but also on general weather conditions and a normal amount of care by the owner. We do not claim our material is a "miracle product" nor that we can control the elements. Every complaint, no matter how minor, is followed personally by one of our representatives.

A few years ago the liquid fertilizer business was heralded as the answer to the fueloil marketer's prayer. Many fueloil dealers jumped into the field, and most of the attempts were miserable failures. The big question is why? Here are some guesses, as well as some "do's" and "don'ts" we have learned.

1. We learned early that liquid fertilizer has to be sold. The public was not waiting with bated breath to take our product from our driver as he cruised slowly down the residential streets of Cleveland. Fertilizing the little green patch out front is high on the "do-it-yourself" list of most homeowners. A fueloil marketer going into the liquid fertilizer business should do it knowing full well that there is a tough job of merchandising ahead. Many potential fertilizer marketers failed because they did not recognize this simple fact.

Sensible Selling

2. Some marketers made exaggerated claims for their product. Liquid fertilizer is certainly not on trial . . . it has been used on hundreds of golf courses for more than 20 years. Even so, it's best not to begin by overstating the possible results.

3. It is important to have a reliable source of supply and, above all, a supplier who knows about growing grass and who will have some real interest in helping you get started. Many companies failed in their initial try because they bought their fertilizer from a supplier who lost interest after he had sold a carload of concentrate.

4. Stay with your experiment long enough to get the benefit of having a satisfied customer tell his neighbor over the back fence about your fine service. This word-of-mouth advertising is the best and least expensive there is, but it takes time to get started.

Here at Allied we are convinced that the liquid fertilizer business can be helpful to an oil dealer or distributor who is looking for a solution to summer idleness of both people and equipment. We also know that thousands of people in Greater Cleveland would be sorely disappointed if we were to withdraw from this phase of our business.

We would be pleased to answer in detail any questions which could help another fueloil marketer get started in the liquid fertilizer field. At Allied we have found it to be exceedingly interesting and profitable, and we intend to keep expanding in the future.

Local Celebrations mark Oil Heat Week

WILLMAR, MINN., St. Louis, Mo. and Indianapolis, Ind., are three of the many locations where Oil Heat's Diamond Jubilee was celebrated. On these pages we reproduce pictures and include some of the details of the observance in these three markets, typical of similar programs that took place in a number of other locations during October.

The Willmar celebration was sponsored by the Willmar (Minn.) Oil Heat Association; every one of the 14 bulk suppliers in the city belong to the group. In addition, each pays 1/16th of a cent into a common advertising and promotion fund.

The Jubilee celebration highlighted displays and demonstrations of oilheating and featured an 8:00 P.M. parade of fueloil trucks through the business district. There was publicity aplenty about the affair in local newspapers and to supplement this, every fueloil supplier ran tie-in advertising.

The observance took place under the guidance of the Association, of which Gordon Haglund, Consolidated Oil Co., Mobil distributor, is president.

A little market background is interesting. Natural gas has been available in Willmar for close to ten months and the local utility has been very aggressive in seeking new customers. They have conducted two door-to-door solicitations, but the utility probably has not secured 50 customers through conversions of oilheat installations. Their principal business up to now has been the conversion of many of their own customers from LPG to natural gas.

Newspaper Supplements

There was additional activity on the part of fueloil organizations during Jubilee Week to participate in the preparation of newspaper supplements.

Outstanding supplements, in addition to those noted here, were distributed through the auspices of the Oil Heat Institute of Long Island and also in the Salem, Lynn and Beverly, Mass., newspapers on October 10, sponsored by the North Shore Home Heat Council.

THE ST. LOUIS, MO., celebration began when Mayor Raymond Tucker (seated in the photograph) proclaimed Oil Heat Diamond Jubilee Week. With the Mayor, left to right, are: George Koertel, secretary-treasurer, Oil-Heat Institute of St. Louis; R. F. Bretsnyder, president of the Institute; A. Jack Becker, chairman of the API Fuel Oil Committee; Owen Hartog, vice-president of the Institute and John Lone, chairman of the Institute's advertising committee.

On Friday, October 7, the Sales Executive Association in St. Louis saluted the Diamond Jubilee at their luncheon. Members of the OHI of St. Louis occupied the headtable; the Oil Men's Club as well as major oil companies were represented.

On Sunday, October 9 the celebration was publicized in the *St. Louis Post-Dispatch's* Home and Garden Section, including a front page news item. This was followed on the next two pages with additional publicity, a number of tie-in advertisements, including a full page from the OHI of St. Louis and a photograph of the Mayor signing his proclamation.

Next, on October 10, A. Jack Becker spoke before 300 members of the national meeting of the Association of School Business Officials and told them why schools should install oil heat. His talk was reproduced in the November issue of FUELOIL & OIL HEAT.

This special events program was supported by the Institute's regular oilheating advertising in newspapers, outdoor billboards and on radio.

INDIANAPOLIS' celebration began with a proclamation by Mayor Charles H. Boswell and was climaxed by an October 12 special meeting, a general view of which is shown in the photograph.

More than 75 men attended the meeting, sponsored by the Oil Heat Institute of Indianapolis, at the Continental Hotel and heard a presentation by Paul Williams, regional sales manager, Arkla Air Conditioning Corp., who described the Arkla-Servel oilfired year-round air conditioner. One of the units was on display at the meeting.

Also, as part of the meeting program one of the Indianapolis Transit Company's busses was parked in front of the hotel. On the outside and inside of the bus all the advertising was devoted to oilheating.

This bus was one of five similar units which the transit company put in operation over regular routes during the week prior to Oil Heat Week. Incidentally, the busses still were in operation a week following the celebration. And, these were in addition to the busses which the Oil Heat Institute of Indianapolis regularly uses for outdoor advertising every month.

On Sunday, October 9, there were six and eight page newspaper supplements, respectively, in the *Indianapolis Times* and the *Indianapolis Star*, both featuring oilheating, of course. And during the week prior to the celebration there were four separate stories giving advance information about it.

Television and radio coverage was enjoyed, too. For example, television Station WISH had its cameras present when the Mayor signed his proclamation; then the event later was shown on the station's regular 6:30 P.M. newscast. Radio station WXIW picked up a live broadcast of the event.

Radio station WIRE invited Institute President Francis Schuster to appear on its Breakfast with Boots program; Radio station WXIW had one of its mobile news units visit the local refinery of Rock Island Refinery Corp., making use of a script prepared by the Institute for the occasion.

Television station WIW-I on its daily special events program had a Standard Oil company official appear to discuss Oil Heat Week and its implications and television station WFBM-TV interviewed Edward Joseph, an Institute director and head of Hoosier Coal and Oil Co. Again the interview made it possible to extol oilheating and to glorify the role played by fueloil distributors in the community.

New Concept in a pressure Burner

Hi-Performance Burner by Lennox is distinctive . . . was developed to realize 10% CO_2, zero Smoke, and no flame Pulsation on low gph Installations

by John W. Schulz

Overall view of a Lennox oil-furnace fired by the new burner. Servicemen appreciate the burner's being high up on this job, making for burner work including no-stoop, no-squat, no-bend.

THE ERA OF GREAT popularity for oil heat in this country, which started about 30 years ago, included the use of domestic intermittent-firing oilburners of widely different kinds.

Burners which were manufactured in appreciable numbers, and which thus added to the growth of the fuel-oil and oil heat industry, fit into these seven categories: 1) pot-type vaporizing; 2) projected-flame vaporizing; 3) wall-flame vertical-rotary; 4) atomizing-flame vertical-rotary; 5) horizontal rotary-cup; 6) low-pressure gun-type; 7) high-pressure gun-type or pressure burner.

Each of these seven types of burners produced its own effects and contributions to the growth of oil heat—although the effects of using some of these burners were briefer and more spectacular than the effects of using others. But we learned much from field efforts at widespread use of each type of burner.

We learned, just for example, that the first two types of burners listed, which were vaporizing types, in general did not do notably well using No. 2 oil or electric ignition, though they had the advantage of being able to produce flames that were silent and as small as were needed for water heaters and parlor stoves of lowest capacities.

The wall-flame rotary burner, we learned, had the ability to gain highly enthusiastic friends and admirers in a somewhat limited circle.

Atomizing-flame vertical-rotary burners, it turned out, were the type for rugged individual inventors, as the different makes differed vastly. Only two manufacturers proved notably successful over the years at applying electric ignition to this type burner. Most manufacturers of these burners stopped their unusual burner-design efforts years ago.

Horizontal rotary-cup burners first gained small and brief popularity for house heating, largely because of the persistence of just one manufacturer, then lost out in the house-heating field partly because, to state things mildly, they were not excellent for electric ignition. They gained vast popularity, however, in the commercial-industrial field using gas-electric ignition . . . as they are excellent for the heaviest fuel-oils.

Of the two types of gun burners, the low-pressure has the advantages of high efficiency and a plug-free nozzle and the disadvantage of being costly to manufacture . . . while the high-pressure gun-type burner (usually called just the pressure burner) has the advantages of simplicity, low-cost manufacture, high potential fuel-burning efficiency, and ease of installation and servicing.

These advantages of the pressure burner, first recognized in the late 1920's by men who also found invaluable this burner's easy adaptability to jump-spark ignition, made enough impression on the fueloil and oil heat industry to make the pressure burner by far the most popular type oilburner.

The pressure burner proved early in its history to have additional advantages over other burners then competing with it for popularity. It was inherently suitable for low-priced domestic fueloils heavier than vaporizing burners could use, its ignition of these oils was outstandingly dependable, it was naturally suited for a blower providing 100% forced draft, and it had a gear-type oil pump able to lift oil from a storage tank distant from and lower than the burner. It had no moving or motor-driven parts affected by heat from the oil flame. It had no moving oil-handling or oil-distributing parts having oil-wet surfaces on which carbon formed, by action of flame heat,

with the burner running or following a shut-down.

Because of these excellent characteristics, the pressure burner gained the great popularity it has today. It is now by far the most popular. On the performance of the pressure burner has been built most of today's fueloil and oil heat industry.

Not without good reasons, most manufacturers who brought out new, modern oilfired furnaces, boilers, and water heaters in recent years decided to equip these with pressure burners.

Advocates of pressure burners, today designing and manufacturing them, and enthusiastically selling them at wholesale and retail levels, declare their burner is a type hard to beat. For many years, these men emphasize, scores of oilburning inventions fell short of the pressure burner. The big drawback to the use of some outstanding new ideas about oilburner design, these enthusiasts for pressure burners point out, is that the use of these ideas would lead to oilburners that cost far more to manufacture than a pressure burner costs.

Standard parts are used in the typical pressure burner, including its motor, fuel unit, nozzle, ignition transformer, insulators and electrodes, blower wheel, drive coupling, etc. Two advantages result from such parts having been made on a quantity production basis for more than 25 years. First, these parts are foolproof, as having been developed at great cost over many years they now are close to being perfect in performance and endurance. Second, these parts now are low-priced for what's in them and what they do, thanks to the quantity production and the writing off of their development cost over a period of many years.

Ray Cooper happily proves the new Lennox pressure burner rings up a CO_2 of 10% while producing a flame as clear and clean as an electric light bulb. Cooper is sales engineer of The Home Oil Company, New Canaan, Conn., whose installations appear in these photographs. He agrees with Lennox factory engineers that servicemen must use combustion-testing instruments in adjusting these new burners, flames of which are so clean and bright when excess air is low as to cause a by-guess serviceman to leave things set wrongly for CO_2 of 12% or higher.

Designers of this burner tried even to improve on the traditional ease of servicing a pressure burner, for they made the parts exceedingly simple and accessible. Removing but one screw in two seconds permitted opening a cover here, exposing 3,450 rpm motor. Simply swinging the ignition transformer aside gives look-see into the gun tube. Uncoupling the nozzle line and removing one more screw permits removing nozzle assembly. Notice the burner hasn't even any high-tension leads to disconnect in servicing. Notice the resilient burner mounting to the left of the piece of armored cable that comes out of the bottom of the burner.

The arguments of the men who favor the use of pressure burners thus can be formidable. Some of these men wonder, first, if an oilburner different from but equal to the pressure burner can be made at manufacturing cost nearly as low as that of the pressure burner. They wonder, second, if the manufacture of pressure burners suddenly could be stopped dead in its tracks by the appearance of some kind of new out-of-this-world oilburner.

They wonder also what should be done right now about selling pressure burners . . . by those when who are convinced that possibly in two, three, or four years there may be in production such a new kind of out-of-this-world oilburner.

Whereas, true, some of these men are wondering about these things,

Type of furnace fired by the burners in the other photographs includes worthwhile features such as: Quiet Hushtone Blower, belt-driven and mounted on a "sulky" frame which floats on resilient rubber mounts (like those used as cushions for the oilburner); a U-shaped wrap-around air filter, described as much larger than usual, and serviced by replacing the filter media with material cut by the serviceman from a bulk roll; and a "fuel saver" wrap-around heat exchanger, sufficiently effective to cause net stack temperature reading to be 550°F. to 600°F.

others are not, but going right ahead being as enthusiastic as ever and as possible regarding the performance of pressure burners of the best models being made today.

Included among these enthusiasts, who today show courage together with undiminished admiration for the pressure burner, are men selling, installing, and servicing the latest models of pressure burners, which in recent years have been developed and put into production by some of the leading manufacturers of automatic heating equipment.

It is true that in recent years certain manufacturers, still convinced that the use of an excellent pressure burner remains the best way to provide oil heat in a home, have made impressive efforts to design and develop pressure burners of outstanding performance. It is true that quite a few manufacturers have done this, and declare they are proud of the late-model pressure burners they are offering.

To serve as just one representative of a heating equipment manufacturer following this line of thinking, for the purposes of this article Lennox Industries, Inc. was selected.

After considerable design and development work, and after extensive field testing, midway through 1959 Lennox announced a new pressure burner, which it named its HI-PERFORMANCE oilburner.

Although intended by its designers to retain all of the many advantages of a pressure burner, the new Lennox burner is distinctive in several respects. As the accompanying photographs show, its appearance is distinctive.

John W. Norris, president of Lennox Industries, Inc., recently told your writer this about the new burner, "The entire objective in developing this particular oilburner was to get clean, quiet oilburning with readings of 10% CO_2 and zero smoke when using .50, .65, or .75 gph nozzles.

"This is the only pressure burner we have ever seen that actually does give performance real clean and quiet, with high CO_2 readings, at these fractional gallonage firing rates. Its maximum capacity is .85 gph. Above this, burners with more conventional combustion heads and more conventional air movers do a very good job.

"We use a 3,450 rpm blower wheel to deliver combustion air to this new and different type of combustion head so smoothly that we do get these small fires with quiet and pulsation-free operation. We belt-drive the fuel unit to keep down its shaft speed to the 1,725 rpm for which it was primarily designed.

"The entire burner assembly has resilient mounts holding it to the furnace front, giving us quiet performance."

Pinpointed a Need

Lennox engineers say, in connection with their new HI-PERFORMANCE pressure burner, that they pinpointed a need for greater economy, greater cleanliness, and greater quietness . . . in the field of oilburners for homes of small and average size. For oilheating to stay alive and grow, they say, that need must be fulfilled.

As progress is made only through change, these Lennox engineers go on, Lennox changed its concept of a pressure burner.

These men say, "The first thing was to throw out the old practice of trying to put a low-gallonage combustion head in a conventional burner . . . it never has been completely successful.

"The problem called for a whole new burner . . . and a whole new arrangement of parts. We discovered that the burner's blower had to run faster; the fuel-unit shaft had to run at a different, lower speed. And a new combustion head had to be designed! The resulting Lennox HI-PERFORMANCE burner is new in looks, in size . . . and most of all, in performance!"

As can be expected from these engineers after they explain that greater fuel economy was one of their reasons for producing the burner of new and distinctive design, they declare, "Here is almost unbelievable efficiency!"

Then they go this far. They report fuel savings up to 50% "where a furnace's good conventional burner has been replaced by a HI-PERFORMANCE burner" and they stipulate that no other change was made in the heating system.

Consider these claims and the burner features covered by the captions of the accompanying photographs . . . and you gain some ideas on why certain enthusiasts for the best in pressure burners still believe these burners deserve house-room.

Honeywell announces residential electronic air Cleaner

MINNEAPOLIS-HONEYWELL, after four years of preparation, has announced its residential electronic air cleaner. The company introduced the unit during December and announced availability during January 1961.

K. L. Wilson, vice-president of Honeywell, officiated at the conferences which displayed the air cleaner and introduced H. O. Chamberlain, market manager, Residential Electronic Air Cleaner.

The unit, shown in pictures on this page, is described as the first one specifically designed for residential use. It can be installed in any position in any type of heating or airconditioning system. Only minor changes are necessary in comfort systems utilizing vertical, horizontal, angular or left or right air flow. A filter flag device mounted on top of the unit provides direct reading of filter condition.

Two of the pictures along the bottom of the page illustrate versatility of mounting. For example, the cleaner can be mounted in a high boy system so as to allow the return air to flow into the lower side of the blower section and leave through the top of the heating-cooling section.

Even such hard-to-get at locations as the closet area illustrated containing an up-flow forced air furnace can be accommodated. The installer need provide only sufficient clearance for removal of the cell for cleaning and for access to the power pack and timer assembly. An electrician works only 110-115 volt wiring; no plumbing is required.

The living area control center, shown in the picture lower right, is both decorative and functional. Used with Honeywell's residential electronic air cleaning system it can be mounted anywhere. It tells the homeowner when the air cleaning cell requires washing, indicates if the unit is operating properly and makes it possible to turn the heating-cooling fan on or off.

Included with the system is a washing kit with a washing rack and tank, squeeze bottle, year's supply of detergent, a hose and nozzle. Washing under normal operating conditions is required every three or four months.

Removing the cell from the cleaner shuts off the power automatically; reinserting it puts the unit back in operating condition but a timer keeps the electronic unit off and operates the fan until the cell dries completely.

The cleaner uses a two-stage cleaning principle to remove virtually all dirt particles from the air. Airborne dirt and dust get a positive electrical charge as they pass through an ionizing section of the air cleaner. When the positive charged particles reach the second or collecting stage they pass between alternately positive- and negative-charged collector plates. The particles are repelled from the positive collector plates and hurled onto the negative plates where they adhere.

Standard units will handle up to 1,400 cfm of air. An optional collection section can be installed in space provided in the cleaner cabinet to increase capacity to 2,200 cfm.

System is priced at $324.95. Counting installation, the total cost to an average new home buyer will be about $350; for an existing homeowner the cost will average about $400.

Save on your Fuel Oil and LP-Gas delivery costs with '61 FORD TRUCKS

NEW 262-CU. IN. "BIG SIX" FOR GREATER TWO-TON PERFORMANCE AND ECONOMY

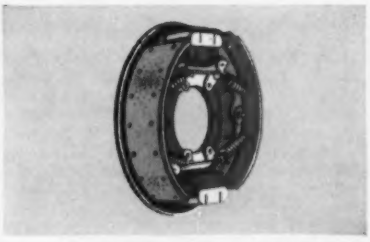
America's savingest two-ton petroleum delivery trucks now offer a big 262-cu. in. Six with the power of big displacement, the gas economy of 6-cylinder design, plus the durability of heavy-duty construction. This engine features a sturdy stress-relieved head and block, strong forged steel crankshaft, long-lasting, stellite-faced intake and exhaust valves and durable, pyramid-type connecting rods. Ford's proven 292 V-8 and 292 Heavy Duty V-8—the V-8's with "six-like" economy—are also available for your special power requirements.

And you save with other new durability features like the more rugged frame, stronger radiator with new lock-seam construction, improved cab and chassis electrical wiring, plus longer, easier-riding and more durable rear springs. In certified tests by leading independent automotive experts the Ford F-600's improved rear brakes showed an increase of 39% in brake lining life.

You save more . . . because you can carry more every trip! Functional chassis construction provides maximum strength with minimum weight for top payloads. Ford's tilt-cab design distributes more weight to the set-back front axle to increase payloads by as much as 1,000 pounds. And parallel ladder-type frame with 34-inch width—standard on all Ford models—allows you to install special tank bodies easily and at less cost.

SAVE UP TO $150 ON FRONT TIRES

In certified tests Ford front tires lasted up to twice as long. In 50,000 miles, savings can add up to $150 on a pickup . . . more on two-tonners. And Ford's sturdy I-Beam front axle and leaf-spring suspension cut maintenance costs.

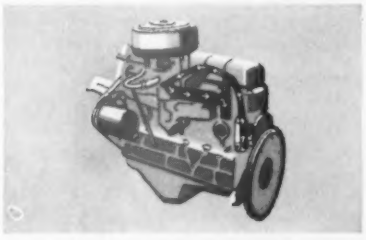


SAVE WITH 39% LONGER BRAKE LINING LIFE

The Ford F-600's improved rear brakes have a more positive retracting spring that completely disengages linings from drums for longer brake lining life. In certified tests rear brake linings lasted 39% longer.

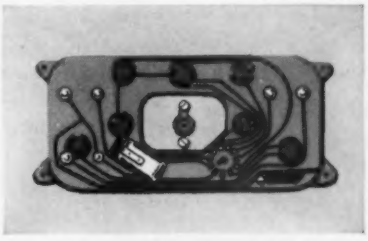
SAVE WITH HEAVY-DUTY 11½-INCH CLUTCH

A big HD 11½-inch clutch is now available with Ford's 292 and 292 HD V-8's for increased durability. Its large 140.8-square inch lining area dissipates heat faster for longer clutch life and greater dependability.



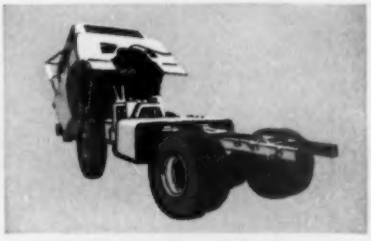
SAVE WITH POSITIVE CRANKCASE VENTILATION

Ford's Positive Crankcase Ventilation system cuts engine corrosion and oil contamination for greater engine durability and extended oil life. It's standard on the new 262-cu. in. "Big Six."



SAVE WITH PRINTED ELECTRICAL CIRCUITS

Ford's long-lived printed wiring circuit is standard on all Tilt Cab models. This system eliminates the "under dash" tangle of wires, minimizes shorts and provides for easy repair.



SAVE WITH TILT CAB ACCESSIBILITY

Ford C-Series cabs are quick and easy to tilt forward to expose the engine for inspection and service. Because you get such complete engine accessibility—maintenance and downtime can be cut.

FORD TRUCKS COST LESS

YOUR FORD DEALER'S "CERTIFIED ECONOMY BOOK" PROVES IT FOR SURE...

FORD DIVISION, *Ford Motor Company*

St. Joseph-Benton Harbor, Mich.

OILHEATING MARKET REPORT*

IN THE SUMMER of 1956 the fueloil dealers in, and immediately adjacent to, Benton Harbor and St. Joseph, Mich., organized the Oil Heat Institute of Western Michigan, Inc.

To date, the activities of the chapter have been confined to three counties in Southwestern Michigan, Berrien, Van Buren and Cass. These counties are located on the East shore of Lake Michigan, and are bounded on the South by the State of Indiana.

The population of the three counties is estimated to be 228,161. That of Berrien County alone is estimated to be 140,702.

While the Southwestern Michigan area is relatively close to Indiana and South Bend, the local dealers have elected to operate their promotional activities independently rather than in combination with the South Bend area (Michiana) dealers. To date, the major portion of these activities have been in Berrien and Van Buren counties centering around the metropolitan area of the twin cities of St. Joseph and Benton Harbor.

Agriculture, manufacturing and resort trade all contribute greatly to the stability and economic growth of this area. Although located only 60 miles directly across Lake Michigan from Chicago, the area is considered a separate "key" industrial market by the United States Chamber of Commerce.

Under the auspices of the Michigan Petroleum Association, Joseph D. Hadley, Exectuive Secretary, there have been meetings of representatives of most of the areas within the state currently interested in and/or having co-operative dealer promotion programs.

Home heating Characteristics

The popularity of the principal fuels for centrally heated residential heating plants, measured in numbers of installations is estimated as follows:

LP Gas	1,050
Gas	8,300
Electric	1,000
*Solid Fuel	6,000
Fueloil	23,570
Total	39,920

*Coal and Wood

In addition to the above, there are an appreciable number of space heaters burning kerosene and No. 1 fueloil—there are approximately 3,000 additional installations in small commercial establishments and a limited number of multiple-unit dwellings.

Competitive Fuels and Costs

Gas:

Natural gas service by the Michigan Gas Utilities Company covers the major portion of the tri-county area with Michigan Gas and Electric Company covering the lower half of Berrien and Cass Counties, and Consumers Power Company covering the East half of Van Buren County. In its usage for home heating, the rate for typical volumes averages around $.0955 per therm. This gives an edge of about 20% in economy to gas when compared with No. 2 fueloil costs at 16.2¢ per gallon (1958-59 high) or 11.6¢ per therm.

Electricity:

Electrical service by the Indiana & Michigan Electric Company covers the entire tri-county area. The typical rates are 5¢ per kwh for the first 30 kwh to 1.5¢ per kwh for all over 220 kwh. These costs for household heating are nearly 200% higher than oil under like insulating conditions.

Fueloil Distribution

The estimate of the total annual volume of No. 1 and No. 2 oil dispensed in the tri-county area by tank wagon amounts to 56,110,000 gallons. Of this volume, approximately 65% is No. 2 oil.

Members of the Oil Heat Institute of Western Michigan account for 16,400,000 gallons of the total volume. It is estimated that approximately 9 million gallons of the total volume is sold under private brands.

A considerable volume of No. 3 oil and residual oil (No's. 5 and 6) is also sold in the tri-county area via transport loads. Commercially, residual oil prices are competitive with gas.

Other marketing Characteristics

Other facets of the local marketing pattern are suggested by the following measurements:

Total oilheating installations in market made by:	
a. Fueloil companies	6%
b. Plumbing and heating (non-fueloil) companies	94%
Fueloil companies also marketing gasoline	83%
Fueloil companies also selling coal	11%
Fueloil companies selling oilheating equipment	14%
Market's oilburners serviced by fueloil companies	14%
Market's oilburners serviced by non-fueloil companies	86%
General level of distribution "refinement" in fueloil companies' operating practices	Good

(Note: The local gas company renders very little burner service excepting in case of emergencies, or for "maintenance-of-flame.")

Promotion and Organization

Natural gas was introduced in the area about 1950. While there has been a very appreciable amount of advertising promotion of both gas and electricity for household heating in this area, there seems to be no way to arrive at even a fair estimate of the dollar volume. However, these expenditures are certainly no less than in other comparable areas.

The fueloil dealers in this market have spent $2,424 in 1956, $1,189 in 1957, $1,130 in 1958 and approximately $7,900 in 1959-60 for cooperative advertising. For 1960 as a participant in the National Fueloil Council the group has a total budget of $15,900.

In the metropolitan area of the twin cities of St. Joseph and Benton Harbor approximately 80% of the area's retail fueloil volume is represented through membership in the Oil Heat Institute of Western Michigan. Dealer contributions are scaled to a rate of $250 a year per million gallons of "light" oil sold. Advertising monies are handled by a committee of capable local dealers employing the contacts and volume discounts available to one or two of the larger dealers. Since no funds are expended for advertising agency fees or for the services of an executive secretary, full value is received for the funds expended.

Newspapers, radio, billboard, truck decals and signs for building contractors are being used.

*Copyright, National Fueloil Council, 424 Madison Avenue, New York 17, N. Y.

National Fire Codes undergo Revisions

CHANGES in fire safety standards have been incorporated in a new and revised edition of the National Fire Codes published by the National Fire Protection Association, Boston.

The six volumes include the 177 standards developed by the association and cover the 60 new or revised fire safety standards adopted at the 1959 annual meeting. Volume I on flammable liquids and gases includes NFPA #31 on oilburning equipment.

The codes may be obtained from the publication department, National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. The price is $7 per volume or $35 for the set of six.

IBR new hydronic system installation Guide available

A NEW IBR Installation Guide No. 800, "Hydronic Heating Systems," has just been published by the Institute of Boiler and Radiator Manufacturers. The Guide is composed of four sections: 1. Boilers and Heat Distributing Units, 2. Forced Hot Water Heating Systems, 3. One Pipe Steam Systems, 4. Indirect Water Heaters.

The Institute has gradually been consolidating its publications so that contractors and wholesalers will have readily available all the information they require for proper calculation, design and installation of hydronic heating systems. Now only three Guides are needed for heating: Installation Guide 800 ($1.50), Piping Guide 700 ($1.00), and Heat Loss Calculation Guide H-20 ($1.00). For copies write IBR, Room 408, 608 Fifth Avenue, New York 20, N. Y.

How to figure yearly oil Bill of a Building from Blueprints

Few fueloil Salesmen have the heating engineer Ability needed for This, but oil heat Costs can be predicted

by Jean L. Dupuis

"THE PROBLEM could not be simpler!" the manager of a large retail fueloil company exclaimed by long distance telephone. "All I need to know is how many gallons of oil will be needed yearly for providing heat and hot water in an eight-family apartment house, construction of which will be started in two months.

"It's simple because I know all the details. I'm looking at the blueprints. Just tell me what you need to know about the building, and just come up with the number of gallons of oil this building will use each year for heat and hot water."

This Mr. Big Boss of the oil company had been on the phone for 15 minutes already, and he'd phoned me person-to-person from more than a thousand miles away.

"I know I shouldn't have to phone you about a thing like this," he did say apologetically, "because I've got a crew of fueloil salesmen here who are supposed to be trained. Every one of them has been to all kinds of schools run by major oil companies, and to conventions and other things supposed to teach them something about selling fueloil. But not one of my salesmen seems to have learned how to estimate the oil consumption of an eight-family apartment house.

"There's five rooms to each apartment, and each room is fairly large," he reported. "Now here's something for you: In the entire building, including halls, there's 5,840 square feet of floor area, and 51,365 cubic feet of interior building volume. From those figures, can't you tell me the yearly oil consumption?"

As I said I couldn't, he gave me still more facts and figures.

"Now here are the figures from the heating engineer who laid out the heating system in this building," Mr. Big Boss told me firmly and impressively. "Make certain you write down each figure accurately. Then just give me the one figure for the yearly oil consumption of the building.

"Installed in the rooms will be 1,315 square feet of standing radiation. It's a forced-circulation hot-water heating system. The heating engineer says the boiler he's installing corresponds to firing by oil at a rate as high as 5.0 gph, but that he guesses a firing rate of either 3.5 or 4.0 gph will walk away with the heating load. He says disregard the amount of oil needed for providing hot water in the winter, and figure oil for hot water from faucets only during the three summer months."

I asked Mr. Big Boss of the fueloil company several questions. How closely must the oil consumption of the building be estimated? Why the urgent need for the estimate? Why all this fuss just over one apartment house so small as to house only eight families? What's the degree-day load of a normal heating season where the apartment house will be built?

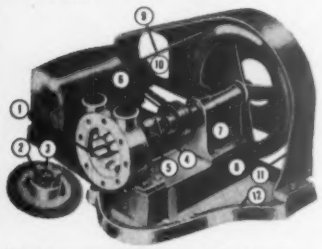
His answers ran like this, "The gas-heat men are urging the use of gas in this apartment house for heating and water heating, and have given the owner a figure for yearly cost of the gas used. With corrections made for the degree-day load of a particular winter, the gas men guarantee that the yearly cost of gas will not run more than 10% above their estimate.

"Therefore the estimate for the yearly cost of fueloil should be just as accurate; actual yearly cost of oil, with correction made for the degree-day load of the particular winter, must not run more than 10% above the estimated cost. The price per gallon of fueloil can be regarded as fixed, however.

"The man who's putting up and will own the apartment house has been given a figure by the gas-heat men, and I guess it's about $1,500 to $1,800 a

KRAISSL PUMPS

CLASS 60 REDUCTION UNITS for rotary burners



These pumps have been in service for many years for direct supply or booster pumping of heavy oil. Slow speed operation reduces cavitation. Outboard ball bearing unit increases pump life by isolation of pulley load. Capacities 130-2700 GPH; pressures to 100 psig.

√ √ **THESE FEATURES . . .**

1. Internal gear design provides high suction lift characteristics.
2. Hardened idler insures minimum wear.
3. Cap screw closure with steering permits easy access to pump interior.
4. Adjustable stuffing box fitted with return seal and soft packing keeps shaft wear and chance of leakage to a minimum.
5. Interchangeable return seal design allows change of rotation in field.
6. Flexible coupling isolates pump bearings from pulley loads.
7. Rugged ball bearing unit insures bearing alignment and large grease reservoir with provision for relubrication minimizes maintenance.
8. Bearing unit support cast integral with bed plate reduces vulnerability to distortion.
9. Adjustable V-belt drive absorbs shock loads and provides quiet operation with low replacement cost.
10. Varied pulley combinations for proper viscosity — speed relationship.
11. Cast iron belt guard protects personnel from exposed moving parts and eliminates chance of bending, denting or sharp edges.
12. Cast iron bed plate with drip collecting bead around edge insures rigid support and minimum chance of bed plate bending or distortion.

Write for Bulletin A-1193

Protect your fuel oil pumps with Kraissl strainers.

Write for Bulletin A-1430.

KRAISSL CO. Inc

295 Williams Ave., Hackensack, N. J.

year. He won't reveal the figure. But he'll compare it with an estimate of yearly gallonage based on using fueloil, which estimate he wants me to give him along with the guarantee that the yearly gallonage will not run more than 10% higher than my estimate."

Mr. Big Boss continued plaintively, "If the gas-heat men can give him a good estimate and guarantee that the actual yearly cost of gas won't run more than 10% higher than the estimate, why can't I do the same thing basing my estimate on using fueloil in the building?"

He continued, "This matter is urgent because matters of principles are involved. We are determined to continue the growth of oil heat in this locality, and to block the growth of gas heat. In addition, although I'm asking you to solve the problems of oilheating just one eight-family apartment house, actually 22 identical buildings are included in one garden apartment development that will house, all told, 176 families. Because they are far from each other, have city streets separating them, and for other reasons, each building is to have its own, individual system for providing it with heat and hot water."

The yearly degree-day load of a normal heating season, at the location of the apartment house, can be taken as 6,500, the oil company executive told me. I told him that in the locality the design temperature for heating systems usually is regarded as ten below zero.

In answer to his question as to why I could not give a yearly oil gallonage figure for the eight-family apartment house on a basis of all the figures he had given me, especially the heating

COMMERCIAL & INDUSTRIAL oilburning

engineer's figures, I replied, "Figures for the floor area and volume of a building don't help when you've got to figure fuel consumption accurately, because a building of a certain size can have Btu heat losses greatly lower or higher than another building of the same size—even 50% lower or higher, for example.

"Purposely speaking cautiously, I always say that I'm not surprised to learn that in such a climate as yours an oilburner runs about 1,500 hours per heating season . . . in heating a large building and providing hot water. (You can check that idea easily by dividing the gph firing rates of buildings you provide oil for into the heating season oil consumption of these buildings.)

"If we could assume that a burner would run 1,500 hours each heating season in this building, then using the 3.5 gph firing rate mentioned by the heating engineer would result in the use of 5,250 gallons of oil per heating season, or use of the 4.0 gph firing rate would boost the figure to 6,000 gallons. However, the heating engineer says he is just guessing in naming those firing rates, and the 1,500 hours of operation per heating season is a thumb-rule, round number with no accuracy to it.

"The guesses of the heating engineer regarding the firing rate can't lead you to an accurate oil-consumption esti-

A	B	C	D	E
Description of Building	*Actual Oil Consumption for Normal Winter gals.*	*Oil Consumption should be for Normal Winter gals.*	*Accurate Figure for Btu Heat Loss*	*Fuel-Consumption Factor D divided by C*
1. 12-family apt.	7,400	7,400	432,000	58.5
2. 20-family apt.	15,800	14,220	867,400	61.0
3. 15-family apt.	14,500	14,500	812,000	56.0
4. 6-family apt.	5,600	4,480	277,750	62.0
5. 45-family apt. and 14 stores	59,000	59,000	2,796,500	47.4
6. 12-family apt.	6,200	5,000	297,100	59.4
7. 8-family apt.	6,900	6,900	207,130	64.8

If the oil consumption of any building is known to be excessive (CO_2 may be low, stack temperature may be high, or the boiler flues may usually need cleaning), you correct for this by putting a lower number in Column C than was listed as the actual oil consumption in Column B. That was done in the above table for buildings 2, 4, and 6. Cross off the list, as not representative of typical buildings, those buildings having unusually low and unusually high numbers in Column E.

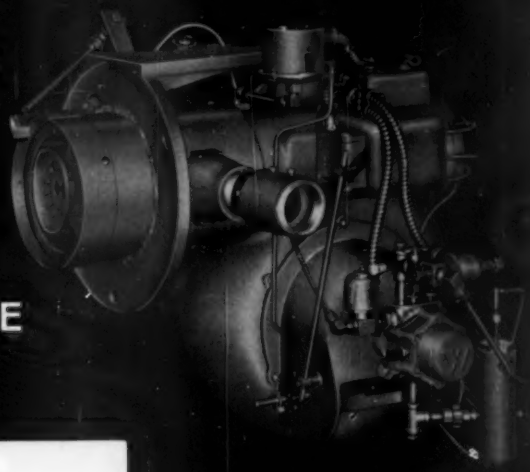
new RAY Forced Draft Burners—

CUT
CONSTRUCTION COSTS

CUT
FUEL COSTS

CUT
ERRATIC PERFORMANCE

CUT DOWN-TIME



Ray Forced Draft Burner

Type PH Heavy Oil Burner showing auxiliary flame funnel.

New Ray Forced Draft burners are available two ways to meet your needs and budget. Burner alone, or as a completely packaged combustion unit. Both offer all these exclusive performance features:

FAST INSTALLATION—Completely contained wiring is expertly done at the Ray factory. Field connecting is limited to a minimum with only simple external fuel and electrical connections to be made.

AMAZING FUEL ECONOMY—Ray is the only burner offering full modulation for both gas and oil. Ends step-firing and starting with a puff. With full modulation, burner closely follows load demand, maintaining steam or hot water capacity at all times, with resultant efficiency and economy.

SMOOTH PERFORMANCE—Smooth low to high fire transition is supplied by the Ray MODUFIRE System, along with guaranteed low-fire start. Burner gradually increases from low flame to high, then instantly drops back to low when boiler demands are met.

NO SMOKE, NO STACK—Clean burning from the start. Forced Draft design eliminates the need for an unsightly stack.

FIT ANY BOILER TYPE—These fully automatic units are available in three sizes to fit any type boiler and have maximum capacities ranging from 7 to 30 gallons per hour.

BURNS HEAVY OIL—Models of this burner are available to burn gas and all grades of fuel oil, including #5 heavy oil. No refractory is required for combustion when stainless steel flame funnel is specified for straight oil firing burner.

Local factory-trained service in principal cities

RAY SINCE 1872

BURNER COMPANY

1301 San Jose Avenue, San Francisco, California
629 Grove Street, Jersey City, New Jersey

6577

VULCAN PREHEATERS

The new PLH series of Vulcan Immersion Heating Elements are especially designed for heavy fuel oil burner installations. They may be used either as a return line heater or for installation in series with Steam Heat Exchanger to provide standby service.

Vulcan Immersion Elements incorporate a built-in thermostat with control knob and dial on outside of junction box. Thermostat may be set below normal temperature of oil provided by steam heater so that Vulcan heater will cut in when temperature is not maintained by steam heater or when no steam is available. 2″ or 2½″ NPT screw bushings make them readily adaptable to existing piping systems.

Write for Fuel Oil Catalog VO-700.

VULCAN

Versatility in Electric Heating

VULCAN ELECTRIC COMPANY, Danvers, Mass.

mate which you can guarantee won't be exceeded more than 10% by the actual oil consumption."

By far the best thing that he'd given me to go by, I told the oil company executive, was the figure of 1,315 for the square feet of standing hot-water radiation in the building.

If we knew the design or maximum radiator temperature planned by the heating engineer, and if this figure of 1,315 accurately represented the radiation requirements of the building, then we could use the 1,315 to figure the heat loss of the building—and an accurate figure for the heat loss of the building is the one thing we need.

Suppose, that is, that the heating engineer is figuring on a design or maximum radiator temperature that causes each square foot of radiation to emit 200 Btu's per hour. Then the 1,315 square feet of radiation will emit 1,315 times 200 Btu's per hour, or 263,000. Things would be simple, if that number represented the Btu per hour heat loss of the building.

We don't know, however, if the heating engineer has figured the radiation on the basis of 200 Btu per hour per square foot. The key number may be lower or higher than 200.

Design Variations

Then again and as I just mentioned, I went on explaining to the oil company manager, that figure of 1,315 may not accurately represent the radiation requirements of the building. Close figuring for a room in the building may show that it needs 21¾ square feet of radiation, whereas a radiator of precisely that size is not available. The engineer may plan on using in this room a radiator of 25 or even 30 square foot size.

Some heating engineers don't figure Btu heat losses of rooms accurately, as the first step to arriving at radiator sizes. They speed up their work by using thumb rules and by guessing, and to play safe they wind up with radiators in different rooms oversize by all the way from 10% to 50%.

For a number of reasons, then, the figure for the number of square feet of radiation in a building is not a clue for finding out accurately the Btu heat loss of a building.

COMMERCIAL & INDUSTRIAL oilburning

"Your company sells oil for quite a few apartment houses, doesn't it?" I asked the oil company manager over the phone.

"Quite a few hundred," he replied.

I wound up the long telephone talk by telling him to engage a heating engineer to produce precise figures for the heat losses of about six apartment houses, as much as possible like the new eight-family apartment house about to be built, and the oil consumption of which must be estimated.

Divide the oil consumption for a normal heating season into the heat loss figure—for each apartment house, I told him. Call the resultant number the fuel-consumption factor.

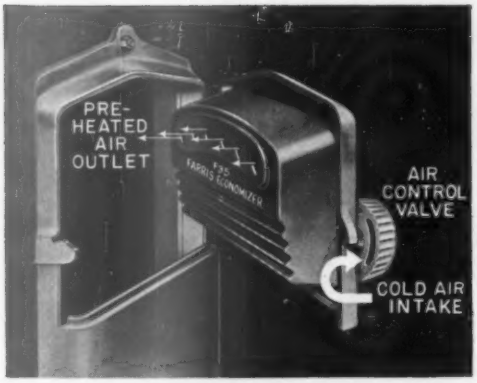
Have the heating engineer ascertain the Btu heat loss figure for the eight-family apartment house . . . with extreme accuracy, using precisely the method he used for ascertaining the heat loss figures of the other apartment houses, which you now supply with oil, I went on.

"Your studies of your customers' apartment houses will produce," I said, "a fuel-consumption factor which you can divide into the heat loss figure of the new apartment house to arrive at an estimate of its yearly oil consumption."

The accompanying table shows how to compare buildings using this method. The more buildings a heating engineer compares in this way, the more accurately can he estimate the oil consumption of a proposed new building from studies of its blueprints. If 20 buildings are compared, for example, the fuel-consumption factors of half a dozen or so may be so far out of line as to cause these buildings to be crossed off the list as not representative of typical buildings.

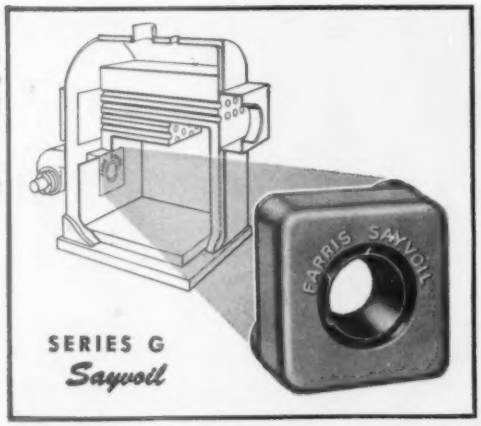
Then the fuel-consumption factors of the other buildings, which factors are more or less in agreement, can be averaged to obtain a factor suitable for application to the heat loss figure of a new building.

BIG CUSTOMER DEMAND—means BIG DISTRIBUTOR PROFIT—in SELECTIVE TERRITORIES—with



SERIES F DOOR MOUNTED

Cold air enters intake valve and is conducted through preheater where air is preheated to a temperature ranging from 350°F to 875°F. Each 35°F rise in combustion temperature represents a 1% saving of fuel. Preheated air over the flame produces more complete combustion of fuel and gases greatly reducing waste, smoke, soot, carbon deposits and related maintenance.



Designed for use on all gun type oil burners. Suitable for all grades of oil from #2 through #6. Three sizes accommodate blast tube diameters from 4" to 10¾".

Farris PROGRESS THROUGH HONEST PURPOSE

FUEL ECONOMIZERS

Other distributors are capitalizing on this proven, established line. They are earning a sound profit on a fast moving product that gives them a competitive edge in today's tight market. Join them, WIRE or PHONE Farris right now. Selective territories are still open but not for long. Don't miss this opportunity to increase and stabilize your business for '61.

Your sales market is practically unlimited. Every oil and coal user is a worthwhile prospect.

HOSPITALS • SCHOOLS • CHURCHES • APARTMENTS
THEATRES • STORES • HOMES • OFFICE BUILDINGS
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Keep your old customers sold and open new accounts when you demonstrate and prove how they can save up to 25% of their present fuel cost and pay for the installation out of the first year's savings — up to 5 times.

Farris Fuel Economizers (both the Sayvoil and Series F model) preheat (as high as 875°F.) draft air before it reaches the combustion chamber. The preheated air allows more complete combustion of the fuel, which produces a hotter, more compact and efficient fire in the boiler. Heat and fuel loss out the flue are eliminated.

The Fuel Economizers are backed and guaranteed by the famous Farris name for engineering integrity and service. Fuel Economizers are not gadgets or gimmicks. Their principle has been proven in thousands of applications and case histories. Complete test information available on request.

Farris PROGRESS THROUGH HONEST PURPOSE

COMBUSTION CONTROLS CORP.

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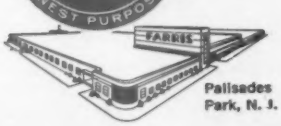
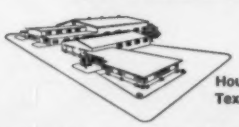
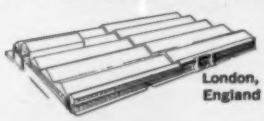


Palisades Park, N. J.



Houston, Texas



London, England

Montreal, Canada

AFFILIATES: Farris Engineering Corp. • Farris Flexible Valve Corp. • Farris Universal Machine Corp. • Farris Industries, Canada, Ltd., Longueuil (Montreal) • Farris Engineering Ltd., London, England • Midland Industries Ltd., Wolverhampton, England

Power Show held at New York Coliseum

COMMERCIAL & INDUSTRIAL oilburning

THE 24TH NATIONAL Exposition of Power and Mechanical Engineering, under the auspices of the American Society of Mechanical Engineers, was at the New York Coliseum from November 28 to December 2, inclusive.

The exposition as usual was not open to the general public; admission was by invitation and registration only. Each day except Wednesday (November 30) the show opened at 12 noon and closed at 6 pm; only on Wednesday was it open until 10 pm.

Although this power show appeared smaller by a considerable margin than it has been in some earlier years, its Guide and Directory listed the names of more than 160 companies which had exhibit booths at the show.

Most of the equipment at this show was of interest mainly to men who work in the field of equipment truly industrial and of vast capacity. However, in at least two or three dozen exhibit booths was equipment of importance to men of the fueloil and oil heat industry interested in commercial-industrial oilburners, related controls, boiler-burner units, prefabricated stacks or chimneys, etc. Included was burner and boiler equipment not of vast capacity.

Featured at the power show was, for example, the Clayton steam generator for firing by oil (No. 2 oil to No. 5) or gas; the three smallest models are fired at 4.9, 9.9, and 15 gph . . . while the largest of the six models is fired at 52.2 gph. These Clayton units are indicated to weigh about 25% as much as conventional steel boilers, to occupy less than 25% of usual boiler space . . . and to take just three minutes to produce full steam production following cold start-ups.

Vapor Heating Corp. featured oil-or-gas Modulatic boilers in eight sizes, smallest fired 5.5 gph, largest 47.5 gph; also Drum Modulatic boilers (low and medium pressure) in six sizes, smallest for 6.0 gph, largest for 60 gph. Described as the world's most compact power packages, these are said to steam in two minutes following cold start-ups. The Modulatic models come for steam pressure up to 1,000 lbs.

McDonnell & Miller, at the show with its excellent display set-ups and in the way that can be expected of this organization, distributed engineering data catalogs of great educational value to men concerned with oilburners, oil-fired boilers, etc. McDonnell & Miller has outstanding ideas on how to couple together the problem of handling condensate collected in a tank with the problem of providing make-up

water for low-pressure and high-pressure steam boilers . . . this organization excels of course at handling all problems involving automatic feeding of water to steam boilers and at the same time providing low-water protection.

Cleveland Controls, Inc., another old friend of commercial-industiral oil-burner men, was at the show with displays and catalogs covering a vast array of equipment. The Cleveland Master Monitor is for a group of boilers working together to carry a load. It can handle two or more boilers, fired by flames which are strictly on-off and of one size only . . . or fired by flames of modulating sizes. A new model is for large plants having five to ten boilers.

The Van-Packer Model HT prefabricated stack, made by the Flintkote Company, was at the Coliseum with a new insulated thimble and new flashing and counterflashing, bragged of as having earned new UL-listing with reduced clearances to combustibles at the roof. The V-P smokestack is boasted to be the only UL-listed stack for commercial and industrial incinerators, boilers, and furnaces. It comes in inner diameters as small as 10, 12, 15, and 18 inches . . . goes on up to 36 inches.

The Ridge Tool Company had down-to-earth demonstrations of the use of its well known "Ridgid" copper-tube flaring tools, pipe wrenches, chain wrenches, new hex wrenches, several kinds of pipe threading machines, etc.

Magnetrol, Inc. was at the power show with its magnet-operated low-water controls for large oilfired boilers.

Fireye electronic primary control equipment was displayed by the Combustion Control Division of ECA.

"Smog" Law requires control Devices on Cars

CALIFORNIA Assembly Bill No. 17 takes legislative action against pollution of the atmosphere by the automobile.

The bill requires devices installed on automobiles on this schedule:

Within one year: All new vehicles throughout the state when first registered and on used vehicles, located in a county affected by the law, if there is a transfer of ownership;

Within two years: All used commercial vehicles, located in a county affected by the law;

Within three years: All motor vehicles, located in a county affected by the law.

Counties not affected by smog can be excluded from provisions of the bill under a procedure prescribed therein.

The Los Angeles County Air Pollution Control District, reporting on the measure, points out that smog results from two factors: air pollution and the inability of the atmosphere at certain times to dilute and disperse pollution. Therefore, optimum control of air pollution requires other than automobile exhaust control.

In Los Angeles County these regulations include prohibiting outdoor fires or the use of single-chamber incinerators; a ban from May 1 through October 31 on burning fueloil or gas containing more than 0.5% sulfur; prohibiting after June 30, 1960 the sale for motor fuel of gasoline with a Bromine number of more than 30.

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Here's an actual training course in selling based on tested sales principles and techniques.

The "SELLING MAN"

This is specialty salesmanship with emphasis on burner selling. A valuable book for your sales staff. Blue cloth binding, 6 x 9 inches, 260 pages. The price only $4.00, plus 25c to cover cost of handling and postage.

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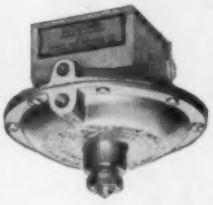
Dewey SAFETY AIRFLOW AND PRESSURE SWITCHES

World Leader for Dependability



"D" Series Switch shuts off fuel if drop in fluid or gas pressure occurs.

"114" Series Switch shuts off fuel if blower fails.

Thousands sold. Factory Mutual and Underwriters Laboratories Approved. Standard equipment on leading products. Write for prices and literature.

FREE CIRCULAR—

Dewey Gas Furnace Co.
102 E. Baltimore • Detroit 2, Michigan

PROTECTION FOR: Oil Burners—Industrial Ovens and Boilers—Power Gas Burners

Industry Groups

(*Begins on page* 30)

Pacific Northwest Convention is set for Portland in May

PACIFIC Northwest Chapters of the Oil Heat Institute will hold their 1961 regional convention in Portland, Oregon, this coming May, with Cliff Arntson of Portland as general chairman.

This convention is expected to be the largest gathering of its sort ever held on the Pacific Coast.

Oil Equipment Jobbers okay accounting Manual

AT THE GROUP'S tenth annual convention at St. Louis the board of directors, National Association of Oil Equipment Jobbers, Tulsa, Okla., approved a draft for a uniform accounting manual. It contains details of a specific accounting system designed for an oil marketing equipment distributor.

Final work on the manual will be completed soon and copies distributed to Association members.

2000 HOURS BONE DRY

Blackmer Pump passes toughest test

When a customer asked us how well our pumps would wear, we had these facts to tell. In one of the toughest pumping tests ever devised, a 2-inch Blackmer pump was driven at top speed for 2000 hours, running absolutely bone dry. Vane wear was detectable only with a micrometer . . . proof positive Blackmer pumps can take it. And, even when vanes do show wear after years of use, they are easily and inexpensively replaced. Aren't these a couple of good reasons why you should use Blackmer pumps? Write for Bulletin One.

"liquid materials handling"® equipment

BLACKMER / rotary pumps

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

Find your Blackmer Man under "Pumps" in the Yellow Pages

The group also fixed the dates for its 1961 convention and trade show as October 15 to 17 in Washington, D. C. In 1962 the affair will be held in Cincinnati on October 17 to 19 and in 1963 at Atlanta, October 16 to 18.

Jet age promotional Piece offered by OHI of America

THE OIL-HEAT INSTITUTE OF AMERICA, New York, N. Y., is offering members a new "Treasury of Advertising" promotional mailing piece, entitled "Heat with Oil—the Jet Age Fuel."

The brochure calls attention to research in the petroleum industry which has resulted in superior distillate fuels for jet plane travel and for home heating.

For information, write Treasury of Advertising, Distribution Division, Oil-Heat Institute of America, Inc., 500 Fifth Avenue, New York 36.

New IBR baseboard ratings Booklet is made available

A NEW EDITION of its baseboard ratings booklet has been announced by the Institute of Boiler and Radiator Manufacturers, New York, N. Y. It contains ratings approved and in effect as of September 16, 1960 on 113 units being offered currently by 55 companies. As additional IBR ratings are approved, supplements will be issued.

A new feature in this edition is a factor to determine the rating when a damper is used for those units which are offered with an optional damper.

The booklet is available from the Institute, at 608 Fifth Ave., New York 20, N. Y., at a cost of 75¢.

Mass. oilmen's Association hold membership Meeting

THE OIL HEAT COUNCIL of Western Massachusetts, Springfield, Mass., held a membership meeting at the Schine Inn, Chicopee, Mass., on December 6.

Featured speakers were Dorothy Crosby of the New England Telephone Company, who talked on building business by telephone, and Harold K. Ricker, consulting engineer for the Council.

Quiet Elegance – Finest Quality

We are proud to present our GOLDEN BEAUTY and SILVER SPLENDOR thermostats. First in decorator design that complements any room decor. Soft, rich blending of colors. Easily read... easily set. And precision performance in the CAM-STAT tradition of fine quality.

Multiple contacts for continuous self-cleaning... Available for millivolt service... Suitable for gas, oil or stoker heating system... With or without adjustable heater. Also available soon in combination heating and cooling.

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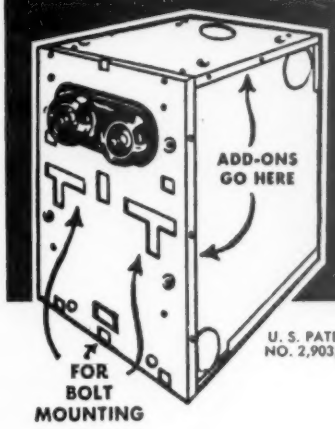
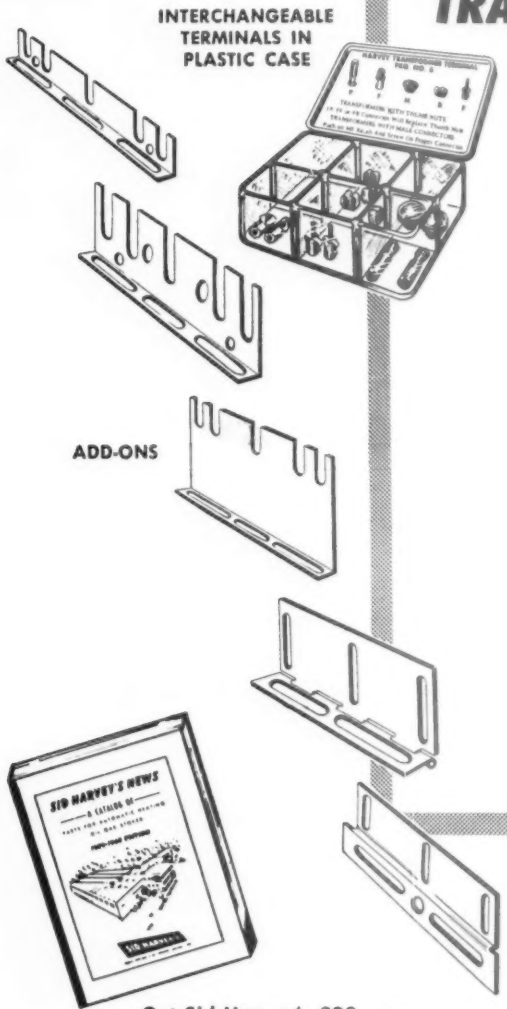


EMERGENCIES DON'T WAIT

BE PREPARED with a HARVEY TRANSFORMER PACKAGE No. 76



Sid Harvey's magic mounting transformer with a choice of hi-tension terminals in base or end, is a permanent replacement for over 80% of the 10,000 volt, 2 pole transformers used on domestic burners.

Five pair of "add-ons" and bolts make any mounting combination you need.

Six pair of interchangeable hi-tension terminals make any hi-tension connection you need; Buss bar, thumb nut, spring plunger, male and female Rajah connectors.

Six knockouts and two internal junction boxes make any line voltage connection where you need it.

Common hand tools are all you need to make a permanent transformer replacement in the field. You'll do a better job in less time with a Harvey Transformer Package No. 76.

Get Sid Harvey's 292 page, fully illustrated catalog. It's FREE to the trade, write for it on your letterhead.

A MUST FOR EVERY SERVICE CAR

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115 VOLTS

ALSO AVAILABLE IN 230 VOLTS

(TRANSFORMER AND ACCESSORIES CAN BE PURCHASED SEPARATELY)

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VALLEY STREAM, NEW YORK

AVAILABLE AT 50 SID HARVEY STORES OR BY MAIL

New Boston division sales Managers appointed by Gulf

GULF OIL CORP. has appointed new sales managers in its Boston Marketing Division.

They are:

L. G. Lamplough, Manchester, N. H., area, covering central and western New Hampshire, eastern Vermont, and part of northeastern Massachusetts.

A. R. Benner, Boston area, including greater metropolitan Boston and the North Shore area.

L. W. Carbonneau, Springfield area, including northern Connecticut and western Massachusetts.

F. A. Millard, Providence area, which will include the state of Rhode Island, eastern Connecticut, and southeastern Massachusetts.

D. P. Clark, New Haven area, including southern and western Conneticut.

Skinner Precision Industries is new Name of Conn. Firm

STOCKHOLDERS of the Skinner Chuck Co., New Britain, Conn., voted to change the name of the company to Skinner Precision Industries, Inc., in order to more clearly indicate the broadened scope of the corporation's present and future activities.

The Valve Division will remain Skinner Electric Valve Division.

Twenty-five Years of automatic Deliveries

(*Begins on page 60*)

3. Equip each truck with the SCULTROL pump-pressure control, which prevents excessive pump-pressure (and damage) that can be caused by: 1) Driving off the oil truck with the power take-off engaged; or 2) Racing or over-speeding the truck engine while delivering oil. This idea encompasses the use of an electrical limit control, affected by the pressure the truck's oil pump develops, to cripple the ignition system of the truck temporarily and in a certain, proper manner, if the pump tends to develop excessive oil pressure. There's a patent on this; patent number is 2,900,915.

4. Have a VENTAFIL on each oil truck. This is a portable, combination fill, vent, and signal device . . . for use on installations having buried tanks with straight-drop fill lines or openings for tank sticking.

That's the complete Scully story for fueloil retailers, as it's being told widely through the fueloil and oil heat industry by men promoting the use of the Scully equipment which has been named. Thousands of executives of fueloil organizations have learned most of what they know about modern delivery methods from latching on to Scully ideas—starting way back 25 years ago, when the VENTALARM signal first was used and changed the entire pattern for delivering fueloil.

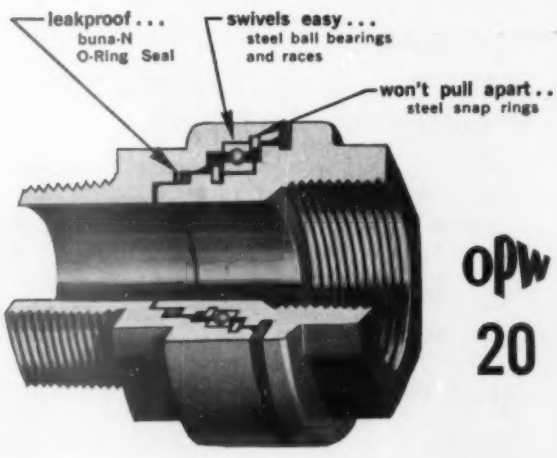
There's a vast amount of academic education included in the spreading of these Scully ideas, which have for 25 years been a tremendous contribution to the fueloil and oil heat industry, and have aided this industry no end in its efforts to fight other fuels.

The development work of the Scully organization has extended into boiler rooms . . . in a Scully effort to advance greatly the safety of controls for commercial-industrial oilburners. This effort produced the FAYLSAFE continuous self-checking technique for all automatic controls . . . to assure immediate detection of the failure of any component part of a control system. This technique is now in use in the flame-failure system being made by a leading manufacturer.

❖ ❖ ❖

John M. Beck has been appointed sales representative for the C. A. Olsen Mfg. Co., Elyria, Ohio. In his new position, Beck will represent the manufacturer of warm air furnaces and airconditioning units in Indiana, western Ohio, and eastern Kentucky.

Robert S. Lehleitner has been appointed Sales Manager, Controls Division, Jackes-Evans Manufacturing Co., St. Louis, Mo. Lehleitner has had specialized training and experience in all aspects of solenoid valve flow control.



opw 20

NEW FUEL OIL HOSE SWIVEL with BALL BEARINGS

It's the new OPW 20 Swivel . . . swivels easy—real easy. Has precision steel ball bearings and races. OPW 20 on a nozzle is like power steering on a car—gives smooth, effortless control. Leakproof (guaranteed!) Won't pull apart (that's guaranteed, too). You'll never have to repair it—there's a factory rebuilt swivel exchange program. A good deal. Details in Bulletin NP-20. Write today.

OPW CORPORATION

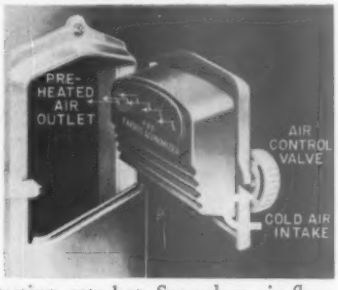
Valves, Couplings, Specialty Products for Handling Hazardous Liquids

2723 Colerain Avenue—Cincinnati 25, Ohio—KI 1-5400—TWX CI-415

NEW PRODUCTS

Farris Combustion Controls develops Fuel Economizer

THE FARRIS Fuel Economizer has been developed as a secondary-air opening in the firing door. In operation the device preheats the secondary-air flowing through it. The economizer is mounted in a casting; receiving radiant heat from the flame, just as a firing door receives such heat, the casting gets hot. Secondary air flowing through channels in the casting also get hot so that the flame in effect receives heated secondary air flowing through the economizer.



The economizer is offered by Farris as particularly effective in overcoming problems of excessive smoke and soot formation and minimizing air pollution. The company describes the economizer as a means of injecting a stream of heated air over and around the fire, completely burning fuel and combustion gases and eliminating waste and smoke.

Made by: Farris Combustion Controls Corp., 400 Commercial Ave., Palisades Park, N. J.

Skuttle humidifier assembly Kit contains all needed Components

AN ASSEMBLY KIT which contains all necessary components, including detailed assembly and installation instruction for the humidifier has been introduced by Skuttle Manufacturing Co. The unit has a lifetime glass evaporating pan, and a reversible valve seat with built-in splash shield.

The counter-balanced humidifier features stainless steel springs and holding rack.

Made by: Skuttle Manufacturing Co., Milford, Mich.

John Wood adds two Models to portable heater Line

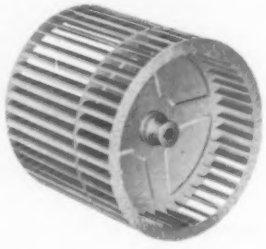
TWO PORTABLE heaters designed for use in buildings under construction are being made by John Wood. The units can be used for heating on repair jobs, warehouse heating, concrete curing and drying, drying crops and for emergency heating jobs.

The PH 350 and PH 80 need no vents and are equipped with fold-back stainless steel combustion chambers. They burn kerosene, Diesel or No. 2 fueloil. Model 350 has an output of 350,000 btu and Model 80 delivers 80,000 btu.

Made by: John Wood Co., Heater and Tank Division, Conshohocken, Pa.

Double, single inlet blower Wheels are manufactured by Revcor, Inc.

FLEXIBILITY of design for central airconditioners is made possible by new features now on the double inlet and single inlet blower wheels developed by Revcor, Inc. A single center disc can be positioned wherever it is desired on the double inlet unit. Hubs are available in either Ledloy steel or aluminum construction. Wheels are made of aluminum to hold weight to the minimum while providing maximum strength for motor speed operation.



Made by: Revcor, Inc., 251 Edwards St., Carpentersville, Ill.

Pipe Dope in tape Form now marketed by Johns-Manville

PIPE-PAC, a pipe dope in tape form, is being marketed by Johns-Manville. It offers a fast, economical method of getting clean, tight and permanent pipe couplings in metal, plastic, rubber and other pipe materials. It will prevent "freezing" of the joint, allowing easy disassembly if needed for maintenance. The tape will not cake or harden. It is available in pocket-sized rolls containing 240 or 480 inches.

Made by: Johns-Manville Corp., 22 E. 40th St., New York 16, N. Y.

...YET IT'S A COMPLETE TRUCK METERING SYSTEM IN ONE WEIGHT-SAVING COMPACT

neptune
for a better measure of profit

Everything you need for accurate metering of fueloil or gasoline is built into one weight-saving unit in Neptune truck meters: an efficient air-release to remove slugs of air, a large capacity strainer to prevent dirt stoppages, a time-saving automatic quantity control valve, and confidence-building ticket-printer.

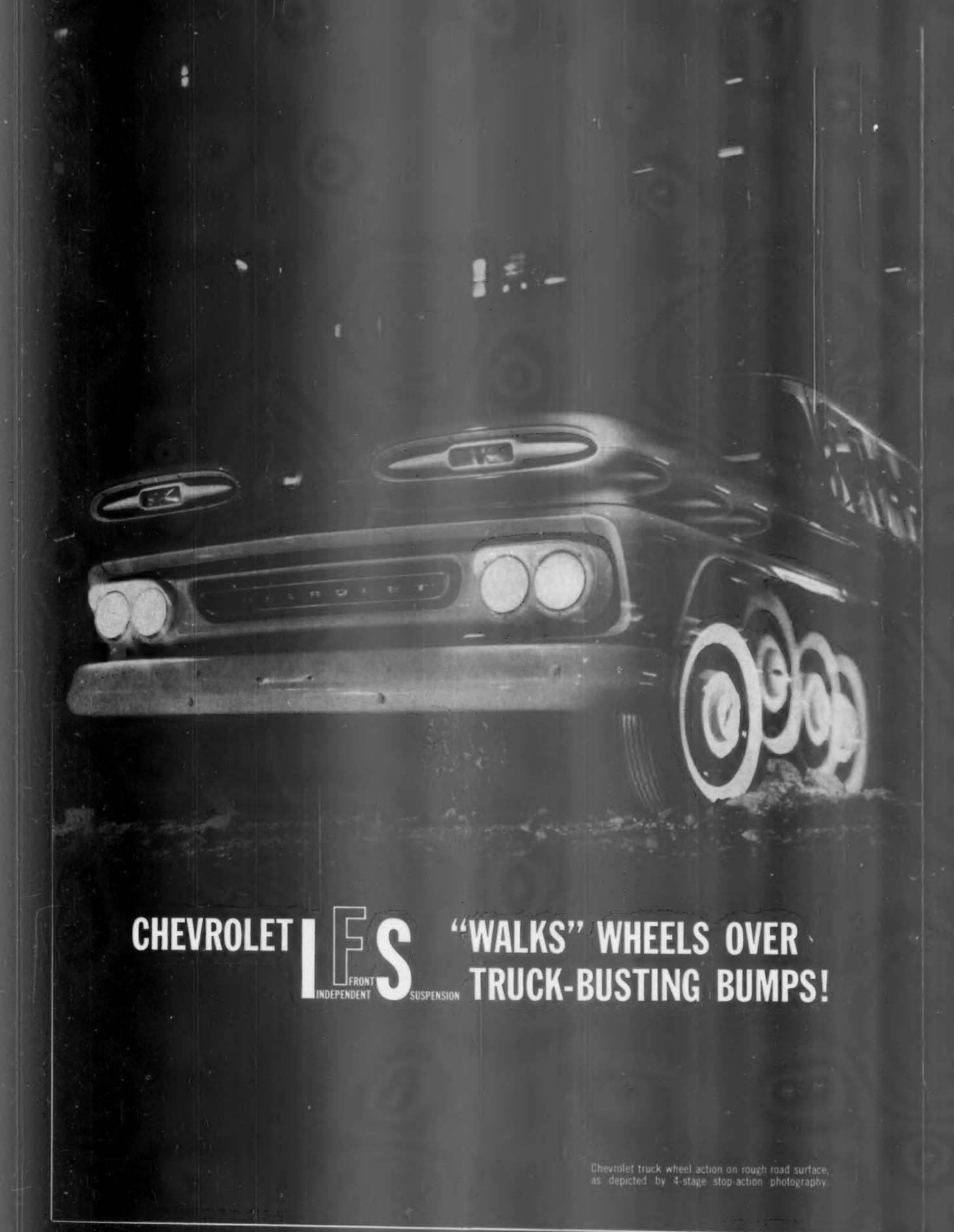
Only Neptune gives you all these in so little space, with so much saving in weight. Only three connections to make. No "extras" to buy . . . fewer chances for leaks . . . less chance for improper installation.

Most important . . . all these important accessories are *designed* by Neptune, *assembled* by Neptune, and *calibrated as one unit* by Neptune.

Add Neptune's splendid reputation for sustained accuracy and low maintenance, and you have the oil marketer's most sought-after business friend. All sizes. Ask your Neptune Equipment Jobber or tank truck manufacturer for details.

NEPTUNE METER COMPANY
47-25 34th St., Long Island City 1, N. Y.
Branches and Jobbers in All Principal Cities
In Canada: Neptune Meters, Ltd., Toronto Ontario

LIQUID METER DIVISION



CHEVROLET IFS "WALKS" WHEELS OVER TRUCK-BUSTING BUMPS!

IFS = FRONT INDEPENDENT SUSPENSION

Chevrolet truck wheel action on rough road surface, as depicted by 4-stage stop-action photography.

CHEVROLET I F S (FRONT INDEPENDENT SUSPENSION) PROTECTS YOUR PROFITS THESE THREE WAYS:

1 *Rides down high maintenance costs.* When a bump looms up, Chevy's independently suspended front wheels "walk" right over it. Most road shocks and jolts never reach the chassis, cab or body. The truck rides *smoothly*, takes less of a beating, stays in cost-saving shape longer. Your income doesn't dribble away in big repair bills. And you don't lose money through excessive downtime, either.

2 *Rides cargoes over rough spots with less damage . . . minimum loss.* Thanks to those same "walking wheels," loads don't do much bouncing in the body of a '61 Chevy truck. That means you don't have to contend with undue cargo damage that eats away at your earnings. (Chevy's load-tailored *rear* suspension helps protect cargoes, too.) This sure protection for fragile loads—and profits—is standard in 1961 Chevrolet trucks of every weight class.

3 *Rides drivers through with less fatigue—for tighter schedules.* Wait till you see how Chevy front wheel action works to eliminate tiring shimmy and steering-wheel fight. It means that the man at the controls can stay there longer with less fatigue—stay on schedule and do a bigger day's work. (Another reason you can look for faster schedules is that Chevy's bump-beating wheel action allows faster safe speeds on rough roads.)

That gives you an idea of how Chevy Independent Front Suspension works to move you ahead in the money-making department. And it's available in 165 Chevrolet models for '61, from new Corvair 95's to 36,000-lb. GVW tandems. Check it out with a demonstration ride at your Chevrolet dealer's, sometime soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

INDEPENDENT FRONT SUSPENSION

In Chevy, each front wheel, suspended independently, is free to step cleanly over bumps (see left). Each works smoothly to reduce objectionable jolts so characteristic with I-beam axle design (right). Working with load-tailored rear suspensions in every weight class, I.F.S. provides the basis for profit-protecting performance that's unmatched by I-beam axle trucks.

I-BEAM AXLE DESIGN

1961 CHEVROLET STURDI-BILT TRUCKS

CHEVROLET

FOR MAXIMUM HEATING
OR EXHAUSTING EFFICIENCY
AT LOWEST COST

Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

...Specify

Quickdraft

POWER-DRAFT UNITS
DESIGNED FOR RESIDENTIAL,
COMMERCIAL AND INDUSTRIAL
APPLICATIONS

★ No motors, fans or bearings in exhaust line ★ Needs no stacks ★ Acid-resisting vitreous enamel finishes ★ Extremely high static pressures now available

FOR HEATING PLANTS AND INCINERATORS . . . *Quickdraft* provides constant draft for efficient and economical combustion. It eliminates pulsating or chattering, puffing, smoking and sooting. Costly, tall, unsightly stacks are unnecessary.

FOR INDUSTRY . . . *Quickdraft* now offers extremely high static pressures for EXHAUSTING corrosive gases, abrasives and paint sprays . . . for CONVEYING all types of bulk materials or wastes that can be moved by air.

FOR MOVING AIR in or out of buildings through ducts . . . *Quickdraft* is outstanding in performance and efficiency.

9010-QD

IMPORTANT NOTICE

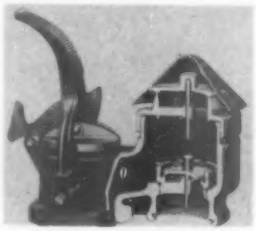
To withstand corrosive gases, all *Quickdraft* units are available in standard acid-resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (P. V. C.) and with plastic and Fiberglass coatings.

Write today for Quickdraft Engineering Data.

Quickdraft Canton, Ohio
CORPORATION P. O. Box 87-F

Pressure and vacuum relief Vent made by OPW for storage Tanks

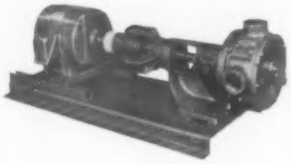
A NEW PRESSURE and vacuum relief vent for use on bulk storage tanks has been designed by OPW. The vent provides emergency upward venting in case of fire as well as normal pressure and vacuum relief. If fire occurs, the fusible metal melts at 200°F and the pressure relief disc blows off giving full upward venting. The unit also has a self-closing gauge hatch which provides an opening in the tank top for measuring the product level.



Made by: OPW Corp., 2735 Colerain Ave., Cincinnati 25, O.

New Wayne helical gear drive Pumps have direct-mounted gear reduction Assemblies

TWO NEW SERIES of Wayne internal gear rotary pump assemblies feature integral helical gear reduction assemblies mounted directly to the pump.



Principal advantages include lighter weight and smaller size, with capacities ranging from 26 gpm to 252 gpm in the "CJ" or "DJ" group. Rated up to 100 psi, the pumps are equipped with motors from 1-½ to 10 hp sizes, depending upon the model size and application. Oil immersed gears can be provided for pump speeds of 635, 515, 420 rpm from standard 1750 rpm motors. The gear drive is rotatable on the pump.

Made by: The Wayne Pump Co., Griffin St., Fort Wayne, Ind.

Fill Valve, expansion Tank for Boilers combined by American Tube & Controls

A PACKAGED COMBINATION of a fill valve plus a pressurized diaphragm-type expansion control tank has been developed by American Tube and Controls, Inc. The fill valve holds to its pressure setting and features fast fill and positive shut-off without leak-by.

The bronze-bodied valve is also provided with union connection, ball check, screen and manual shut-off. Pressure setting is adjusted by changing the charge pressure in the Ex-trol (control tank). The combination is called Fill-trol and is easily installed.

Made by: American Tube & Controls, Inc., Pulaski St., W. Warwick, R. I.

EVERYWHERE

Sparktrodes®

By far the most *complete* line of Ignition Electrode Assemblies, insulators, fittings, bus bars and cable. For *fastest* service on *exactly* the ignition parts that you want, always order from a "Dielectric" Jobber. There's one near you! 3-58-1

DIELECTRIC

PRODUCTS CO., Inc.

125 VIRGINIA AVE., JERSEY CITY 5, N.J.

5 YEAR GUARANTEE

backed by large New England Insurance Co.

Distributor Inquiries Invited

ORIGINAL STEEL

Permanent Tank Bottom

Seal leaking tanks the sure, positive way at a fraction of the cost of a new tank . . . and enjoy a 5 YEAR GUARANTEE of the entire tank! Only STEEL bottoms give certain seal with no chance of leaking or buckling. A one-man, 30-minute job. Insist on the ORIGINAL STEEL Permanent Tank Bottom now being used by over 800 oil and service companies. Three standard sizes . . . all 10" wide . . . in 60", 66" and 72" lengths. If no distributor of STEEL Permanent Tank Bottoms is in your area, order direct from factory—at discount . . . or write for literature.

PERMANENT TANK BOTTOM CO.

600 WYNDHURST AVE. BALTIMORE 10, MD.

NOW! PORTABLE SOOTMASTER FURNACE CLEANER

Easily carried — Heavy duty performance — more economical—maximum filtration — maneuverable — New elastic top filter bag snaps on and off for easy cleaning

601-8

COMES COMPLETE WITH

- 10' duck covered hose
- 27" furnace cleaning tool
- 10 reusable paper filter bags
- Handy hose carrying cage
- Available without wheels

Distributed in Canada by: Imperial Refractories & Equipment Ltd.

mastercraft INDUSTRIES INC.

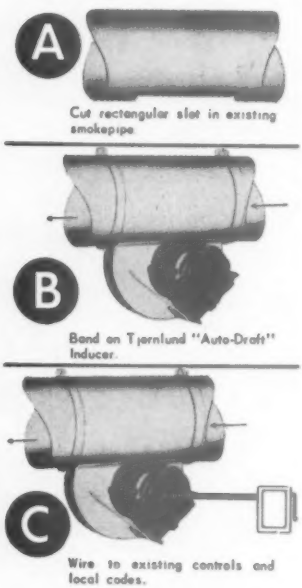
109 Lanza Avenue · Garfield, New Jersey

TJERNLUND "Auto-Draft" Induc

Solves Your Problem Draft Jobs!

CHANCES ARE, you're calling back too often on certain jobs where insufficient and unstable draft is causing smoke, noisy starts, and basement sooting. You'll completely eliminate these unnecessary service calls, and make additional profits, when you *Guarantee Draft with "Auto-Draft".*

Simple as A-B-C to Install!



Only TJERNLUND has all these Features:

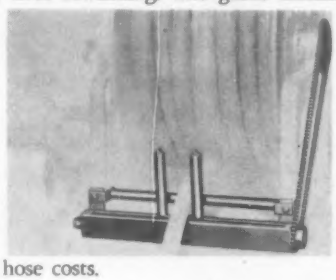
- Heavy Duty construction.
- Nationally known motor.
- Light weight.
- Quiet Operation.
- Built for years of service.
- Venturi-type operation.
- Doesn't rob furnace room of combustion air.
- Uses minimum smoke pipe length for mounting.

At your Jobber, or Write:

TJERNLUND MFG. CO.
2140 Kasota Ave., St. Paul 8, Minn.

Ardmore Attachment for hose Reels simplifies, speeds-up rewind Job

THE LEVEL-WIND attachment for Ardmore bottom wind hose reels speeds-up hose rewinding. The guide assembly automatically travels back and forth across the reel to control exact layering. The attachment eliminates bulking of the hose and contributes to longer hose life and lower hose costs.

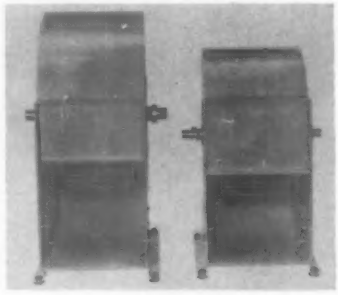


The unit is chain-driven from a sprocket mounted on the outside of the reel bearing assembly. The same motor that turns the reel during rewind also drives the attachment.

Made by: Ardmore Products, 1831 Shermer Rd., Northbrook, Ill.

Interchangeable blower Combinations are developed by The Lau Blower Co.

A NEW SERIES of eight blower assemblies divided into four interchangeable combinations has been developed by The Lau Blower Co. These combinations simplify adding cfm capacity when cooling is added and also provide furnace manufacturers with the opportunity to standardize on various parts. When air-conditioning is added, a 10" blower can be installed within the same mounting dimensions of the 9" blower originally installed for heating only.



The interchangeable blowers are now available in the following combinations: 9 and 10" diameters and 10 and 12" diameters in both six and nine inch widths.

Made by: Blower Division, The Lau Blower Co., 2027 Home Ave., Dayton 7, O.

Mod-U-Flo control Valves govern Flow of Fueloil to variable-fire Nozzles

HILL MACHINE CO. has introduced a line of Mod-U-Flo control valves to govern the fueloil to nozzles. The valves come in three sizes, covering ratings of 5 to 60 gph. The valve is of the spool type and so can be adjusted by any straight-line actuator linked to the stem which has a linear motion of 2". A spiral groove of increasing depth meters the flow. A plastic-seat valve at the end of the spool travel provides positive shut-off.

Made by: Hill Machine Co., Rockford, Ill.

NEW

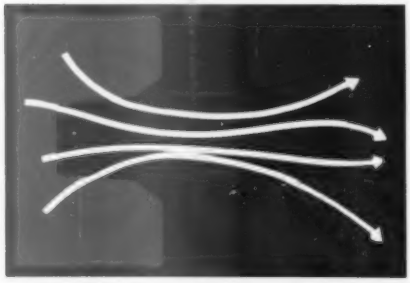
FROM

bryant

FACTORY PACKAGED

OIL BOILER

introducing a new idea in rapid heat transfer



THERMAL PINS

Amazing Thermal Pins speed heat transfer from flue gases into boiler water.

MODEL 231
CONTROLS COVER OPTIONAL

HOT SELLING FEATURE

NEW BRYANT BOILER SECTION STUDDED WITH THERMAL PINS!

Developed by Bryant research and field tested for a full year, Thermal Pins are cast into the section wall — inside and out. They extract more heat from the flue gases and transfer it faster into the water; better in heat absorbing properties than conventional design.

8 FEATURES MAKE BRYANT EASIER TO SELL

LIGHTER BOILER is made possible by the Thermal Pin design; is easier to handle in the shop and on the job.

EASY ON FUEL. The new boiler responds quickly to the thermostat; has a shorter operating cycle; saves fuel.

COMPLETELY PACKAGED UNIT — comes all ready to hook up.

BUILT-IN WATER HEATER, factory installed, supplies plenty of hot water (3 to 4.5 gpm) the year 'round.

CONTOURED INTERNAL VANES (21 per section) also set up heating efficiency and strengthen boiler structure. Controlled water flow extracts all usable heat.

FUEL SAVER — FAST HEAT. The Bryant ceramic fibre combustion chamber has many advantages. Jet-fast, it goes from cold to white hot in 15 seconds. The flame is burning clean and at top efficiency.

Saves 45 pounds in weight. Boiler is easier to handle.

TRIPLE INSULATION. Ceramic fibre plus monoblock plus fiberglas combine to muffle burner noise and keep casing cool.

CAPACITY. 1 to 2 gallons of oil per hour.

Join up with

bryant

the company on the move!!!!!

BRYANT MANUFACTURING COMPANY • Indianapolis 7, Indiana

NEW! BRYANT HYDRONICS MANUAL

Developed for Bryant dealers. It takes the guesswork out of system design, proper boiler and pipe sizing; shows correct installation methods that assure a highly efficient hydronic system. It will save you untold time, money and customer gripes.

It's available through your Bryant Distributor or Factory Branch.

SOLID SERVICE

.....from your local Bryant distributor or Factory Branch

He is a good man to know. You'll find him willing to help you in every way he can. He will give you prompt delivery from full hometown stocks. His factory-trained people will help you on layout and installation problems. And you can benefit from Bryant's local advertising and sales promotion ideas and programs.

More than 100 heavy duty Models added to Ford Truck Line for '61

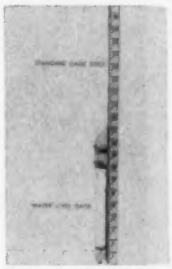
FORD MOTOR CO. has added more than 100 heavy duty, diesel and gasoline powered trucks to its line for 1961. All have single headlights to reduce headlamp replacement costs by 50% and redesigned hoods and front end sheet metal to permit easier access to engine compartments. Ford dealers will provide a 100,000 mile warranty on Super Duty V-8 engines—including full labor costs up to 50,000 miles.

Pictured is one of the Styleside Pickup trucks with a new type integral cab and body which eliminates the separation between the cab and the box. These trucks carry nine cubic feet more cargo than the previous models and feature a tailgate 13 inches wider with a new handle latch which can be operated with one hand.

Made by: Ford Division of Ford Motor Co., Dearborn, Mich.

Water level Gauge and Sampler developed by Universal Valve

A GAUGE to measure the level of water accumulation at the bottom of storage tanks has been developed by Universal Valve. The unit is put on any standard gauge pole by means of two screws, and has a clear plastic sampler attached. Lowered into the tank until it hits bottom, the stem opens the valve and allows a sample of the liquid to enter the tube. As the sampler is raised the valve closes entrapping the core sampling. The water level is read directly on the gauge pole. The sampler can be used on any petroleum storage tank, barge or tanker.



Made by: Universal Valve Co., Box 444, Elizabeth, N. J.

Element Hanger for Baseboard is introduced by Crane Co.

CRANE CO. has developed a slide cradle basket hanger for the Sunnybase Type "L" baseboard. The new method of suspension holds the element in proper position preventing tipping and at the same time allowing for approximately one inch of expansion travel.

The bottom of the cradle consists of two wire guides which ride on the front enclosure bracket. The wire basket holds element in proper position during hook-up and provides silent travel during expansion.

Made by: Plumbing, Heating Air Conditioning Group, Crane Co., Johnstown, Pa.

for half the price
get better
results with

MAID-O'-MIST
HUMIDIFIERS

Simple, effective,
inexpensive
A size for every home

Then Compare

with other units that claim the same evaporating capacity

FIVE SIZES . . . a correct one for every home . . . gives you engineered humidity and control. MAID-O'-MIST humidifiers put out the same water capacities as big, bulky, costly humidifiers. And you have no service headaches. All the customer does is clean and change the evaporator pads once a year!

For conventional or counter-flow warm air furnaces

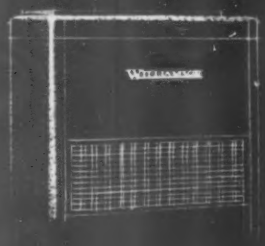
WRITE for information, prices and Free Wall Chart Shows right size for every house

MAID-O'-MIST, Inc.
3217 NORTH PULASKI ROAD
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc.
HEATING SPECIALTIES

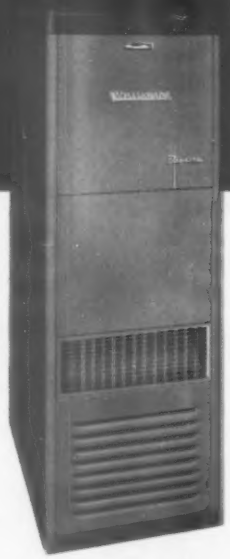
Your customers will BUY

NEW . . . Miracle Burner . . . TWO STAGE OPERATION . . . famous Tripl-ife iron and stainless steel ribbons . . . outstanding economy . . . whisper-quiet.



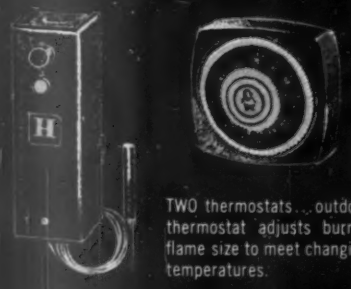
Famous Seal-Tite® cabinets in Hi-Boy, Lo-Boy and Counter-flow styles. Two-tone Frost green.

Hi-Boy Model

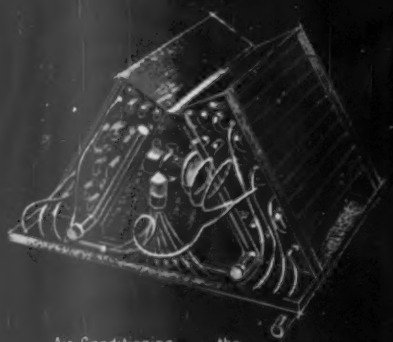


Counter-Flow Model

the difference!



TWO thermostats . . . outdoor thermostat adjusts burner flame size to meet changing temperatures.



Air Conditioning . . . the Gasaver is designed for summer cooling with EXTRA blower capacity where required.

Lo-Boy Model with Air Conditioning

fuel oil & oilheat

new

WILLIAMSON

Gasaver®

Not just another furnace . . . new distinctive, exclusive features make the Gasaver different . . . set it apart from *all* other furnaces. *Customers recognize, want and will buy the difference that is Gasaver.* The Gasaver represents an engineering achievement, a positive contribution to modern home comfort.

BE A WILLIAMSON DEALER . . .

HAVE exclusive Gasaver . . . a tremendous advantage over your competition

PLUS exclusive Oilsaver in Hi-Boy, Lo-Boy and Counter-flow models

PLUS SUPER Series . . . a competitive line of quality units

PLUS famous Seal-Tite® Duct, Pipe & Fittings

PLUS the complete line of Williamson Air Conditioning units for residential or commercial installations

PLUS a complete line of *free* literature, engineering aids, and selling plans . . . all dealer designed and tested

COPYRIGHT, 1960 — THE WILLIAMSON CO.

THE WILLIAMSON COMPANY
3312 X 13 Madison Road, Cincinnati 9, Ohio

HEATS AND COOLS AMERICA'S HOMES

I'd like more information on:

WILLIAMSON Furnaces ☐ Gasaver ☐ Oilsaver ☐ Super Series
☐ Williamson Air Conditioning
☐ Williamson Seal-Tite® Duct, Pipe and Fittings

Name_____ Title_____

Firm_____

Address_____

City_____ Zone_____ State_____

Lee Filter Corp. introduces Line of oilburner Filters

A COMPLETE LINE of filters for oilburners has been announced by Lee Filter Corp. They are designed to remove sediment, dirt and to neutralize acids. There are filters for both residential and industrial applications.

Made by: Lee Filter Corp., Edison, N. J.

Thermo-O-Heat steel hydronic Unit features novel baffling System

TECHNO-THERM has developed a new Therm-O-Heat steel boiler. The unit is an all-welded, inclined tube, watertube boiler featuring a novel system of baffles which are an integral part of the tubes to channel the gases of combustion through three phases before they leave the boiler.

This construction offers a large water storage capacity. The boilers are made in SBI ratings from 87,000 to 233,000 Btu/hr. They are available as a boiler unit with coil, jacket, and standard trim, or as a complete package boiler with circulator, controls and oilburner.

Made by: Techno-Therm Industries, Inc., Amsterdam, N. Y.

WHISTLER

Model E, the only whistle you can install without disturbing the present piping. Model D for new installations.

APPLIED MECHANICS COMPANY
381-389 CONGRESS ST., BOSTON 10, MASS.

"Instrument check-ups open the doors to profitable equipment sales."

The FYRITE SERVICE KIT

. . . QUALITY INSTRUMENTS that Pay for Themselves

$52.30 FACTORY NET

Sold by Alert Heating Jobbers

The FYRITE Service Kit provides a complete set of accurate, quality-built combustion-testing instruments at the lowest cost. It includes the FYRITE CO_2 Indicator which is unsurpassed for fast, accurate flue gas analysis; and also contains the popular DRAFTRITE Draft Gauge and the TEMPOINT 200°-1000°F. Dial Thermometer.

BACHARACH INDUSTRIAL INSTRUMENT CO.
200 N. BRADDOCK AVE. • PITTSBURGH 8, PA.

Send FREE Bulletin on Profitable Uses of Service Kit

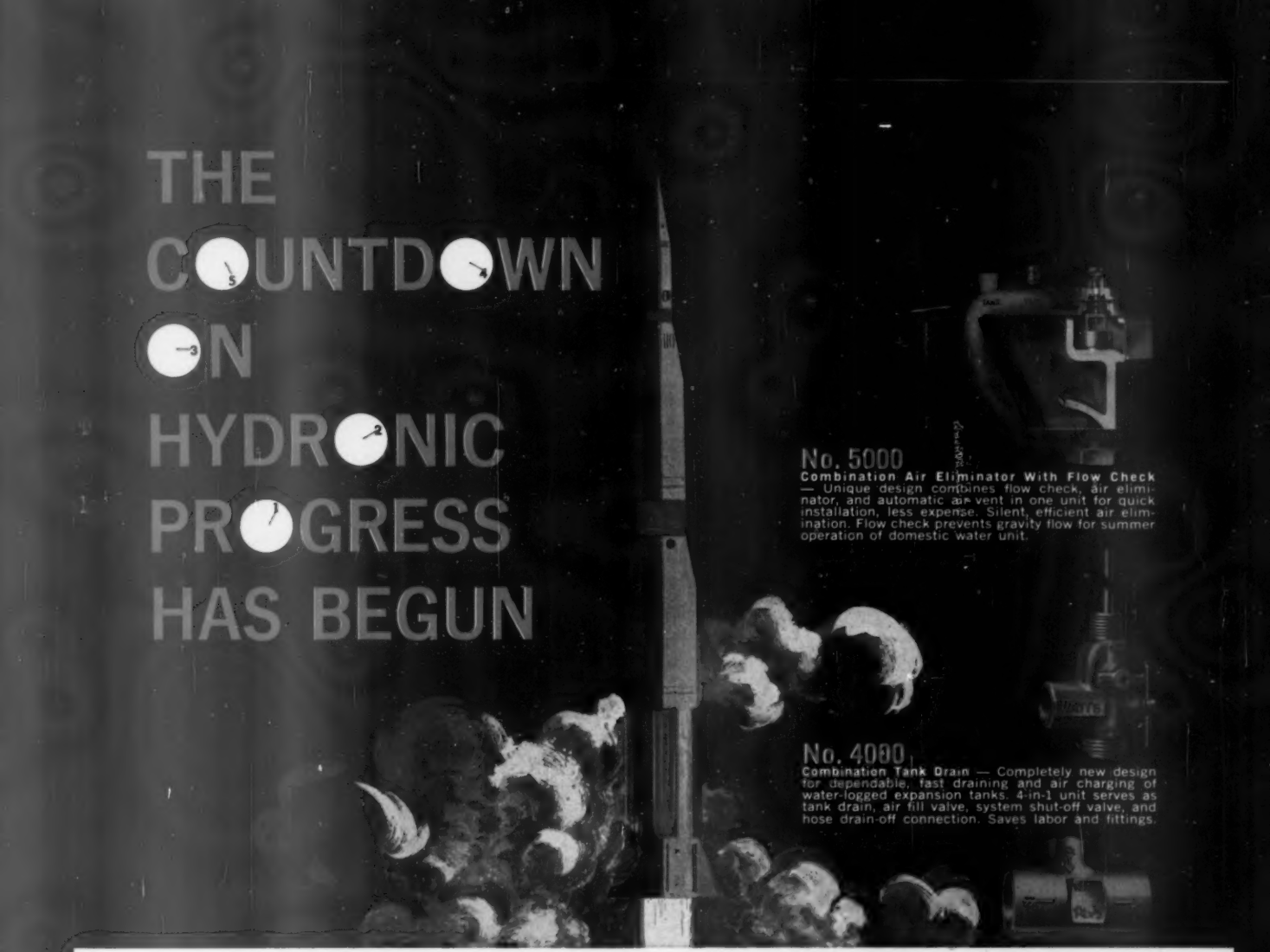
NAME_____
COMPANY_____
STREET ADDRESS_____
CITY & STATE_____

SK-27

FOR *Quality* INSTALLATIONS

BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

THE COUNTDOWN ON HYDRONIC PROGRESS HAS BEGUN



No. 5000
Combination Air Eliminator With Flow Check — Unique design combines flow check, air eliminator, and automatic air vent in one unit for quick installation, less expense. Silent, efficient air elimination. Flow check prevents gravity flow for summer operation of domestic water unit.

No. 4000
Combination Tank Drain — Completely new design for dependable, fast draining and air charging of water-logged expansion tanks. 4-in-1 unit serves as tank drain, air fill valve, system shut-off valve, and hose drain-off connection. Saves labor and fittings.

Heating contractors wanted improved, engineered hydronic accessories to satisfy their customers' demands . . . and to keep pace with the growing market for forced circulation hot water heat. Watts hydronic specialties are the answer. We confidently predict they will set new industry standards for design and engineering.

These new Watts products improve water circulation and reduce installation time, costs and inventory. Watts equips you with a complete, dependable line, to save you time and money now and to prevent trouble later.

You can install them on even the most competitive job (they cost no more) and protect your reputation, your customers' comfort and safety. Contact your wholesaler or write us for bulletin. *Watts Regulator Company, Lawrence, Mass.*

Be sure . . . Use

WATTS

Protection and Control Specialties

No. 3000
Radiator Diversion Fittings — Precision machined for forced circulation heating systems to insure maximum diversion of water into each unit with minimum pressure drop. All-bronze (85% copper) construction for quick-tight sweating and corrosion resistance.

No. 2000
Two-Way Flow Check — Combines angle and horizontal checks in one stock type: free air flow expansion tank connection when installed as angle check; uses boiler by-pass and recirculation line when installed horizontally. Easily opened for gravity circulation when necessary.

No. 1000
Circulator — Exclusive, compact design offers quietest performance, minimum maintenance. Impeller attached directly to motor shaft means fewer parts to wear and replace. Hydronic performance curve assures flow design standards for modern piping. Compact unit has fewer parts, weights less, and takes less space.

Edison Electric announces national heating Campaign

EDISON ELECTRIC INSTITUTE, New York, N. Y., kicked off a new campaign for electric house heating in the Nov. 21 issue of *Life* magazine, with 63 insertions scheduled before the end of 1961. Ads will run in several other general magazines as well as in trade publications according to W. M. Shepherd, vice president of Arkansas Power and Light Co. and chairman of EEI's Live Better Electrically Policy Committee.

About half the ads will be on heating exclusively, while the others will feature heating as the central idea in total electric living. The cleanliness of electric house heating will be the principal copy theme stressed.

The campaign, which is supported by 150 U. S. utilities, will cost slightly more than $1 million.

❖ ❖ ❖

Thomas H. Becker has joined Thomson & McKinnon, New York 4, N. Y., members of the New York Stock Exchange, as registered representative. He is the son of Ralph Becker, former managing director, Oil-Heat Institute of America.

Lucien Craig has opened Craig Associates at 1343 H St., N.W., Washington 5, D. C., offering public affairs service. Craig has been connected for a number of years with Gulf in a public relations capacity.

J. E. Rowell, formerly southern district sales manager, has been named director of sales, General Products Co., Inc., Fredericksburg, Va. The company manufactures Air-Jet packaged chimneys.

J. W. LeRoy, formerly with National-U. S. Radiator as special assistant to the president, has set himself up as a manufacturer's representative. LeRoy is operating out of offices at 8905 Lake Ave., Cleveland 2, Ohio.

Jack Searls has established his own business as a manufacturer's representative working out of Goshen, Ind. Searls is well known in the oilheating field and for a number of years has been connected with several leading control manufacturers.

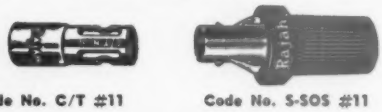
E. Paul Harder & Associates, St. Louis, Mo., named sales representative for American Tube & Controls, Inc., West Warwick, R. I., in Eastern Missouri and Southern Illinois.

E. O. Habbegger Co., Philadelphia, appointed petroleum equipment distributor in Eastern Pennsylvania, Southern New Jersey and Delaware for Roper Hydraulics, Inc., Commerce, Ga.

Robert J. Carter has been named vice-president in charge of engineering, The Rittling Corp., Buffalo, N. Y. Since 1946 he has been associated with the company which manufactures finned tube radiation, schoolmaster unit ventilators, baseboard and wall radiation, back draft dampers, horizontal, downblow and cabinet unit heaters.

RAJAH TERMINALS

FOR OIL BURNER SPARK PLUG IGNITION CONNECTIONS
Made in Two Styles
CRIMP TYPE and SOLDERLESS



Code No. C/T #11 Code No. S-SOS #11

THE RAJAH CO., 35 Verona Ave., Newark, N.J.

New!

ALL PURPOSE
"S" Nozzle

from Sussux

First with a soft spray and perfect atomization through out all sizes.

Send your trial order today
SUSSEX NOZZLE CO.
358A Sussex Ave. Morristown, N. J.

FOR BURIED TANKS

You Can't Beat
FUELGUARD!

The only Remote Reading tank gauge that will fit ANY size tank . . . ANY distance away . . . WITHOUT PIPES OR WIRES!

Write for information today
R. S. TEESDALE CO.
2830 Woodcliff St., S.E. Grand Rapids 6, Mich.

with one push of the button . . .
CLEANS AND RESTORES CONTACTS ON OIL BURNERS, AIR CONDITIONERS, GAS CONTROLS, ETC.
Such as: Relays, Breakers, Solenoids, Thermostats, etc.

CONTACT CLEANER
LIQUID BURNISHER

Permits application in difficult areas. Prevents rust, pitting and corrosion.
AVAILABLE AT MOST JOBBERS OR WRITE FOR NEAREST DISTRIBUTOR.
$1.25 CAN
THE TANKIT CO. INC. 560 BELMONT AVE. NEWARK N. J.

WILLIAMSON

HAS QUITE A CASE!

THE WILLIAMSON COMPANY • CINCINNATI, OHIO

MANUFACTURERS ACTIVITIES

Modernized office and factory, including enlarged and improved space, recently completed by Oil Equipment Mfg. Co., Louisville 11, Ky. At the same time, additions have been announced to Oil Equipment's line of oil loading assemblies.

Delco Appliance sets up 'Key dealer Plan' Program

DELCO APPLIANCE DIV., Rochester, N. Y., has announced a "key dealer plan," whereby GM-Delco franchises will be awarded to a limited number of high-caliber dealers in each market.

Details of the plans explained by John T. Tighe, appliance sales manager, pointed out that dealers currently handling Delco Appliance products will be given first consideration. Also, inauguration of the plan will coincide with new product introductions during the coming months, which will include oil furnaces, central airconditioners, heat pumps, water heater and accessories.

Additionally, the plan will provide territorial protection for dealers, price protection through adequate notice of price changes; also service to dealers is being improved through more rapid deliveries from regional warehouses. Finally, Delco's engineering staff will be available for technical consultation and an expanded force of factory sales representatives will provide dealers with a sales-building plan. In turn, the factory will support the program with magazine and newspaper ads.

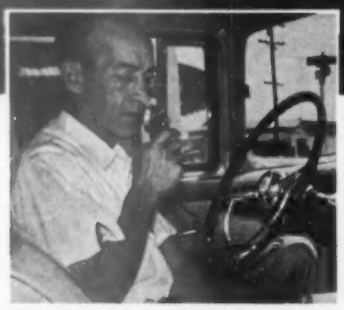
Gulf Oil Corp. will sponsor NBC-TV special news Reports

IN A PRECEDENT-SETTING purchase of fast breaking news coverage on the NBC television network, Gulf Oil Corp. will sponsor "NBC Special News Reports" of major world events in the forthcoming months.

The program is designed to report the substance and meaning of momentous national and international events that dominate the headlines, in the nature of such unpredictable crises as the U-2 incident, United Nations Security Council meetings, the Summit collapse last Spring and similar happenings. Julian Goodman, director of news and public affairs, will supervise the series and NBC News' staff of 300 will be available in producing the programs, with Frank McGee as chief correspondent.

President Robert E. Kintner, NBC, and W. K. Whiteford, Gulf's chairman of the board, announced the arrangement.

GOING-GOING-GONE
THEY SELL!
Klemm® MICRO
FUEL OIL FILTERS
KLEMM FUEL OIL FILTERS never stay long on your shelves. Good design and performance, attractive packaging and prices make them sure-fire best sellers . . . the kind that puts profit in your pocket.
Always stock KLEMM . . . they sell!
PK-150 U/L
JR-60
FF-430 U/L
FF-430G
SEND FOR complete literature and prices. Do it today.
Millions Since 1932
KLEMM PRODUCTS
Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto



Bill Blanchard, Service Manager, gets in the act to dispatch a trouble-shooter (shown above) to a restaurant where an emergency involving the plumbing occurred.

"Instant radio communications with service-men, not only have saved the company time and money, but probably prevented the loss of customers," says John Holderer, Proprietor.

$3000 per Month Sales Increase Attributed to RCA 2-Way Radio!

Plumbing, heating and repair specialists, John Holderer & Sons, San Diego, Calif., turned to 2-way radio to increase efficiency. They figured one additional service call per day would pay the costs of a complete RCA 2-Way Radio system for the seven trucks and two cars. Profits were being burned up on the road by servicemen looking for a public phone, returning to the shop for a special tool, or tracking down other servicemen for assistance. In a conservative estimate they believe the installation of 2-way radio has resulted in a gross volume increase of $3000 per month. Besides, it has improved customer relations. They advertise the fact they are radio equipped and "this in itself is a potent sales point," according to John Holderer.

Thanks to new FCC regulations, most businesses can now enjoy the business-building advantages of 2-way radio. For plumbing, heating and other service operations, RCA "LD" (Low Drain) Radio has new features that assure dependability with economy. Priced considerably below other transistorized 2-way radios, comparable in cost to conventional tube-type radios, the "LD" is today's best buy in 2-way radio. Ask your RCA Representative for complete descriptive literature. Or mail coupon.

RCA The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

RADIO CORPORATION OF AMERICA
Communications Products, Dept. P-252
24 Murdock Street, Canonsburg, Pa.

☐ Please send me FREE literature on the new RCA Transistorized Mobile Radio.

☐ Have RCA Communications Specialist contact me and explain why this is today's best value in 2-way radio.

NAME _____ TITLE _____

COMPANY _____

TYPE OF BUSINESS _____

ADDRESS _____ PHONE _____

CITY _____ ZONE _____ STATE _____

fueloil & oilheat

PRINTED FORMS
AND OPERATION AIDS
For Immediate Shipment

Check items you are interested in. Attach to your letterhead, mail for information, prices, FREE SAMPLES:

☐ Degree Day Cards
☐ Service Order
☐ Service Ticket
☐ Service Record Card
☐ Daily Record of Deliveries
☐ Service Dept. Record
☐ Authorized Receipt
☐ Door Knob Notice Card *
☐ Telephone Call
☐ Inter-Office Correspondence
☐ EZE Stick Pressure Sensitive Label *
☐ Price Charts
☐ Weather Temp. Recording Thermometer
☐ Safety Sidewalk Caution Signs
☐ Sort-O-Matic Rack
☐ METERED ONE-TIME CARBON DELIVERY TICKETS (Truck—Bulk Plant—Gas Pump)

My Name.....
Company.....
Street.....
City.....State.....
*Allow 2 weeks to imprint your copy.

Serving 20,000 Petroleum Firms Over 30 Yrs.
DEGREE DAY SYSTEMS
39-10F 58 ST., WOODSIDE 77, N. Y.

Heat Controller announces expanded plant Facilities

HEAT CONTROLLER, INC., Jackson, Mich., has enlarged its plant space by 25%. Completion of the addition was made in November and production has begun in the new area.

J. A. Knight, President, said that the addition was necessary due to preseason orders for the company's air-conditioning products. A portion of the new area will be used for warehousing.

Boiler Company to support BHC's hydronic home Campaign

FEDERAL BOILER CO., Midland Park, N. J., has launched a cooperative program with local heating installers to support the Better Heating-Cooling Council's drive to get builders to feature hydronic heating in their new homes. Federal will supplement the national campaign with aids for the individual builder.

A 37-page chart presentation will be used to show the BHC ad campaign, which features hydronic heating as the "heart of the house." Builders also will be shown how the installation of hydronic heat in new homes can bring them more profit. A bonus incentive for each of the builder or agent salesmen is provided within the extra profit outline.

Detroit Controls Division makes new Catalog available

A NEW DOUBLE FOLD CATALOG for wholesalers and dealers, designed to streamline the task of buyers, describes the current line of American-Standard heating controls produced by the Detroit Controls Division.

The new Catalog 500-C is a six page version of the former 500-B, now obsolete. It is in color and contains identifying illustrations, unit numbers for ordering and a minimum of copy devoted to descriptions and recommended applications for the complete Detroit Controls line.

Economy of Operation Theme of water heater Literature

"TEN SHOWERS FOR A DIME" is the theme of oilfired water heater literature being offered to dealers by Sid Harvey, Inc., Valley Stream, N. Y.

The literature stresses the economy of heating hot water with the Harvey unit by showing how little it costs per shower.

For copies, free to dealers, write Sid Harvey's, 100 E. Mineola Ave., Valley Stream, N. Y.

Burner manufacturing Firm is sold to J. J. Pivovaroff

B. CHRISTIAN BERG, former president of Schurs Oil Burner Co., Los Angeles, Calif., has announced the sale of the 55-year old company to John J. Pivovaroff.

Pivovaroff indicates that the company will continue to manufacture burners and allied equipment for the industrial heating and manufacturing fields.

Effective with the change in ownership, the company will be known as Schurs Burner & Equipment Inc. The firm has moved to new enlarged manufacturing facilities at 8956 S. Atlantic Ave., South Gate, Calif.

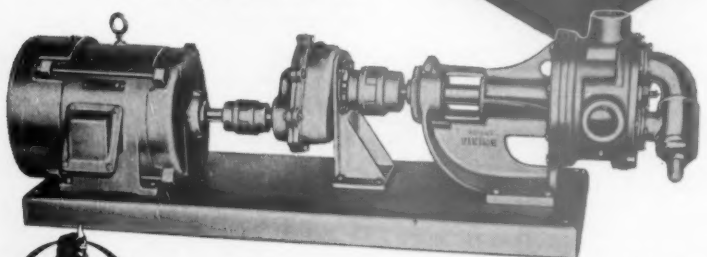
VIKING
FUEL AND LUBE OIL PUMPS

All of the qualities you want for smooth, positive delivery of fuel oils, lube oils and other petroleum products are combined in the Viking 288 pump. It is compact, quiet, easily serviced, delivers 17 to 164 G.P.M. and more, under pressures up to 200 P.S.I.

This pump comes in 4 sizes, each with 5 gear reductions, making it extremely versatile to fit your every need. Send today for complete information on the Viking 288 pump!

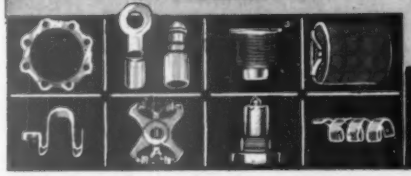
17 to 164 G.P.M.
Compact
Positive Delivery
Quiet
200 P.S.I.

Ask for catalog GEE, Page 27-28



50 YEARS
VIKING PUMP COMPANY
Cedar Falls, Iowa, U.S.A. • In Canada, It's "ROTO-KING" Pumps
Offices and Distributors in Principal Cities • See Your Classified Telephone Directory

Servicing Oil Burners? YOU NEED THIS FREE Catalog



handy 20 page Catalog chock-full of popular REPLACEMENT PARTS and SERVICE TOOLS to make your servicing easier.

- FUEL UNIT PARTS
- CONTROL PARTS
- CIRCULATOR PARTS
- SHAFT SEALS
- STRAINERS
- GASKETS
- IGNITION TERMINALS

Your friendly Oil Burner Jobber stocks the HYDROVALVE Line. Ask him for a copy of Catalog #60, or write direct.

Hydrovalve CO., INC.

1319 Utica Avenue, Brooklyn 3, N. Y. / BUckminster 4-1330

THE HIDY DEGREE-DAY RECORDER WILL

SAVE YOU UP TO 30%

ON TRUCKING AND BOOKKEEPING COSTS

Would you pay $95 a year rental *to save up to 30% on your bookkeeping and trucking costs?* That's what hundreds of users of the HIDY degree-day system are saving every year. With this system you can deliver more gallons per mile—make fewer trucks do the same job. Can be bought or leased. In use in all parts of the country. The most accurate, easiest to install, simplest to maintain degree-day recorder on the market—and that statement is backed by $1000 reward for anyone who can prove otherwise! Write for full story of this money-saving, work-saving plan—ask for Bulletin FO-01. Please state whether you already operate on Degree Day system.

(Note: Some territories still available for sales representatives. Write for information.)

HIDY-BROWN RECORDER COMPANY

6988 FIVE MILE RD. CINCINNATI 30, OHIO

THE ONLY FUEL OIL NEUTRALIZER THAT WORKS 2 WAYS

1. Destroys odor at its source.
2. Actually neutralizes fumes.

STOPS FUEL OIL ODORS INSTANTLY

NEUTRODA

THE WORLD'S ORIGINAL AND LARGEST SELLING FUEL OIL NEUTRALIZER

POWDER OR SPRAY Both in 16 oz. containers

THE TANKIT CO., INC. 560 BELMONT AVE. NEWARK, N. J.

IGNITION COMPONENTS CO.

P. O. BOX 423 BLOOMFIELD, N. J. PHONE: PILGRIM 3-9140

5 Basic Standard Type Ignitors . . .
Plus most complete line of 448 special designs

- IGNITION CABLE
- RAJAH FITTINGS
- PLASTIC "ROLL-UP" KITS
- IGNITION TOOLS
- BUSS BARS
- IGNITION ACCESSORIES

See your jobber for new 1961 catalog

Engineering Facilities available to OEM

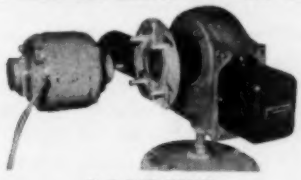
IT'S COLD!! THE MOTOR QUITS

No Spare in Truck or Shop
Now Servicemen Carry

MOTADAPTOR®

THE UNIVERSAL MOTOR MOUNTING FLANGE

AT YOUR JOBBER



FITS OLD OR NEW MOTORS

U. S. PAT. 2510680

J. B. PRODUCTS 79 Waydell St. Newark 5, N. J.

TRADE MARK

KEK IT! to be sure

KEK-CLEANED BOILERS LAST LONGER GIVE EVEN HEAT WITH LESS FUEL

STEAM FASTER ◆ AVOID AIR LOCK

KEK for STEAM

KEK for HOT WATER

KENITE LABORATORY MADISON, NEW JERSEY

MADSEN Quik-Temp Combustor

- The combustion chamber you've been waiting for.
- Saves approximately 4 hours installation time.
- Improves burner efficiency.

- Made of steel plus ceramic fiber.

Sizes available .65 to 1.25 gph

For Information and Literature, Write Today!

MADSEN, Inc. 3549 NICOLLET AVE. MINNEAPOLIS 8, MINN.

Ohio Oil Co. to acquire Stock of Ross Oil Corp.

RAYMOND A. ROSS, SR. and Grant H. Young, Ohio Oil marketing vice-president, have announced an agreement whereby Ohio Oil Co. through an exchange of common stock will acquire all of the stock of Ross Oil Corp.

Ohio Oil thus will acquire an established marketing subsidiary, which will continue to operate under its own name, distributing approximately 23 million gallons of gasoline and home heating oil in Summit, Medina, Wayne and Portage Counties, Ohio. Ross Oil distributes through 87 service stations, about two-thirds of which are in the greater Akron area, and an 800,000-gallon bulk plant at Akron.

Ohio Oil was organized in 1887, has headquarters at Findlay, Ohio, and is one of the nation's major integrated oil companies. The company produces about 110,000 barrels of crude oil daily and, with a subsidiary, processes approximately that amount in three refineries in Illinois and Michigan.

Mueller Climatrol holds annual operations Meeting

NOVEMBER 30 was the date of Mueller Climatrol's annual operations meeting held at its Milwaukee factory. Mueller personnel presented summary report of 1960 operations and discussed forecasts, budgets and objectives for 1961.

Top executives of the Worthington Corp., Mueller's parent company, spent the day at the meeting.

H. P. Mueller, Jr., president, reported consolidated sales of Mueller Climatrol furnaces were down from 1959 peak levels, but said that substantial gains were made again in cooling sales in 1960.

Bryant Mfg. opens two branch Offices

ANNOUNCEMENT of the opening of two branch offices has been made by Bryant Mfg. Co., Indianapolis, Ind.

In Albany, N. Y., Bryant is opening a branch office and warehouse at 45 Learned St. to serve northeastern New York State. Richard E. Johnson, who is transferring from Bryant's Cambridge office, will manage the Albany branch.

In Baltimore, the company reveals that the new branch office will operate from the same address as the former distributor, 527 West 29th St. Robert J. Fairhead, transferring from Bryant's regional sales staff, is manager of the new branch.

Montag Furnace bought by North Coast Mfg.

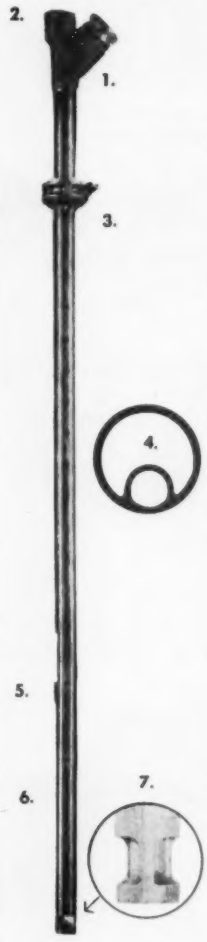
PURCHASE of Montag Furance has been announced by Melvin A. Peters, president, North Coast Mfg. Corp., Portland, Ore. North Coast has purchased the name, furnace design and some other assets of Montag, Inc.

Montag will be operated as a wholly-owned subsidiary, with a separate sales organization both companies will be served by the manufacturing, engineering and research facilities of North Coast.

North Coast also manufactures airconditioning equipment.

SIMPLE AND RUGGED — *ALL THE WAY*

VENTAFIL Portable Combined Fill, Vent and Signal



1. **VENTAFIL assures the efficient, safe and economical filling of underground tanks having straight drops — regardless of the venting conditions encountered.**
2. The body design of VENTAFIL, containing the famous VENTALARM Signal, is extremely flexible. It comes equipped with the UNIFIL Adaptor UF49, but with its standard 1½" pipe thread, can be used with any other suitable tight connection.
3. **VENTAFIL utilizes relief means in the whistle passage to control initial venting. This feature, with automatically operable relief in the adjustable support, assures a loud, clear whistle, irrespective of pumping speed.**
4. VENTAFIL incorporates two independent extruded aluminum passages. The first passage provides for the entry of the fuel into the tank and the second, or signal passage, provides for venting through the signal.
5. **Stop means is of simple, rugged design and requires no manual adjustment. VENTAFIL components are nonferrous to eliminate sparking hazards.**
6. Deep filling with VENTAFIL eliminates foaming, making it possible to stop cut-off of the whistle by rising foam. This feature enables filling to the proper level and increasing the average drop by 20 gallons or more.
7. **A disperser eliminates the filling impact on a concentrated area on the tank bottom. This feature decreases the disturbance of sludge and other foreign matter and should result in reduced burner service.**

SCULLY SIGNAL COMPANY
MELROSE 76, MASSACHUSETTS
IN CANADA: E. S. Gallagher Sales, Ltd., 10 Hollo Rd., Toronto, Ontario

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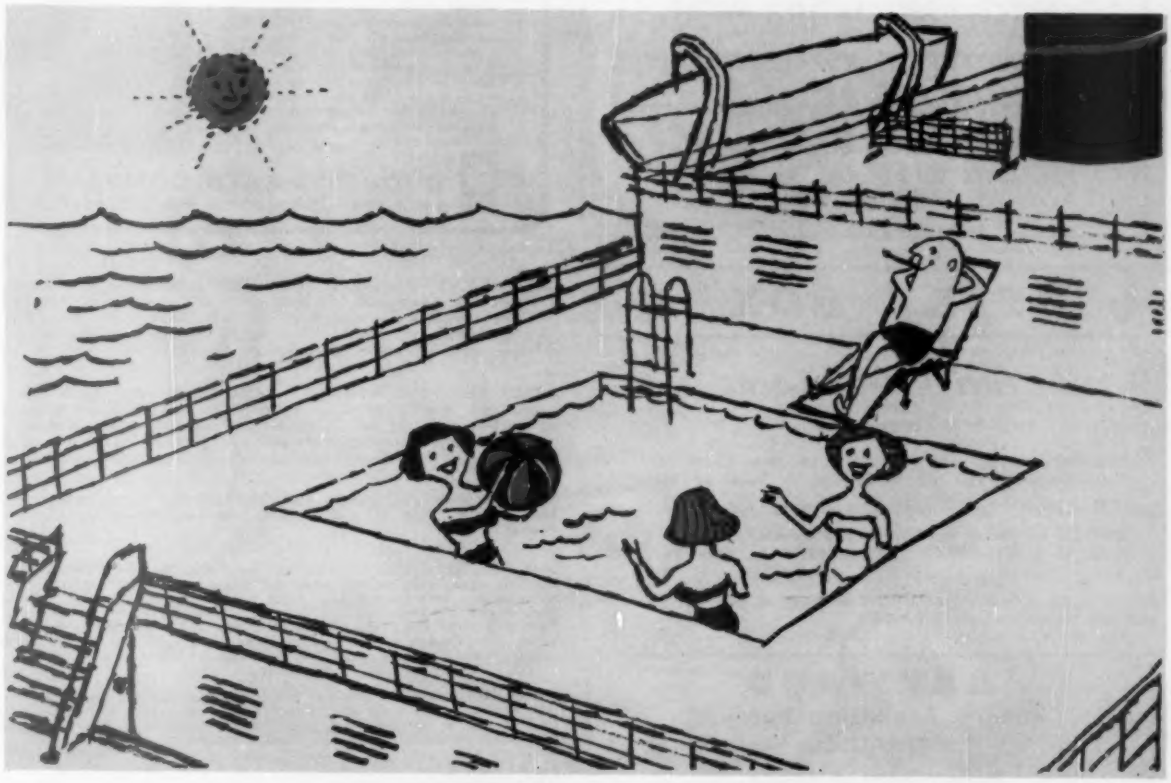

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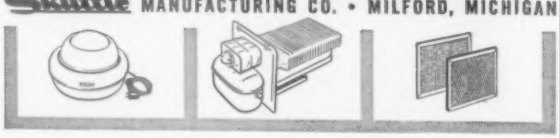

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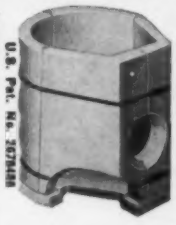

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Truck Talk

by Chet Cunningham

WHEN YOUR MECHANICS work on an engine with the spark plugs removed, be sure they cover the plug holes with a clean cloth. This keeps foreign objects from dropping into the combustion chamber.

The piston shown here is a good example of what can happen. In this case a spark plug terminal nut dropped into the plug hole during a minor engine tune-up and was not found. Running the engine caused the heavy piston pitting.

In such a situation the spark plug itself could also be damaged and ruined from impacting with the terminal nut on the power stroke.

If something does drop into a spark plug hole, get it out this way. Take off the rocker arm cover and gently rock over the engine until both valves are closed. Then take a small piece of copper tubing and bend it to form a straight hook. With the tubing attached to your air chuck, build up full pressure on your compressor and insert the tubing into the spark hole. Now blow the compressed air in all directions.

Do you brand your tires? It's a good idea. Use two brands. One for your company name, another for the log number of the tire. The name brand will keep your tires from straying too far from the home corral. And those tire numbers will help you to keep track of tires as they are switched from rig to rig, recapped, and put back into service. Some production tires now have a built-in branding area.

Brand both sides of the tire, for quick identification. One firm puts the brand midway between the sidewall and center and tread edge. They go 1/16 of an inch deep with the brands.

Your radios giving your batteries a hard time? Do you have a heavy duty generator, over-sized batteries and still lots of maintenance?

Now the transistorized two-way radio has done a lot to short circuit these problems. One from Motorola draws less than one amp of power on standby. This means the drivers can monitor the radio even without having the motor running. This saves fuel, engine wear, and dead batteries.

The new transistorized radios are more rugged too, which means fewer service jobs on the radios themselves. Most of the major radio companies have two-way transistorized radios.

A chattering chassis on your trucks is trying to tell you something. Listen to it. It might be:

Mouse Squeak: Heard when your rig takes a bump. It means dry ball joints in the front suspension—long past due for a lube. A klunk instead of a squeak means your steering linkake is loose.

Bongo Beat: Some cat with the bongos under your car or light truck signals a bad muffler. In cold weather this can mean poisonous carbon monoxide inside your cab. Fix it quick!

Wire Brush Swishes: Brake shoes may be dragging—if you get the sound when not braking. Pull a wheel to check.

Canary Tweeting: Underneath. This can mean a dry universal joint. Some need lubing every 1,000 miles, others much longer time interval. Check your service manual to be sure.

Rattling Dice: In hub caps. Loose wheel nut, tighten all.

Is the brake fluid in your trucks turning them into death traps?

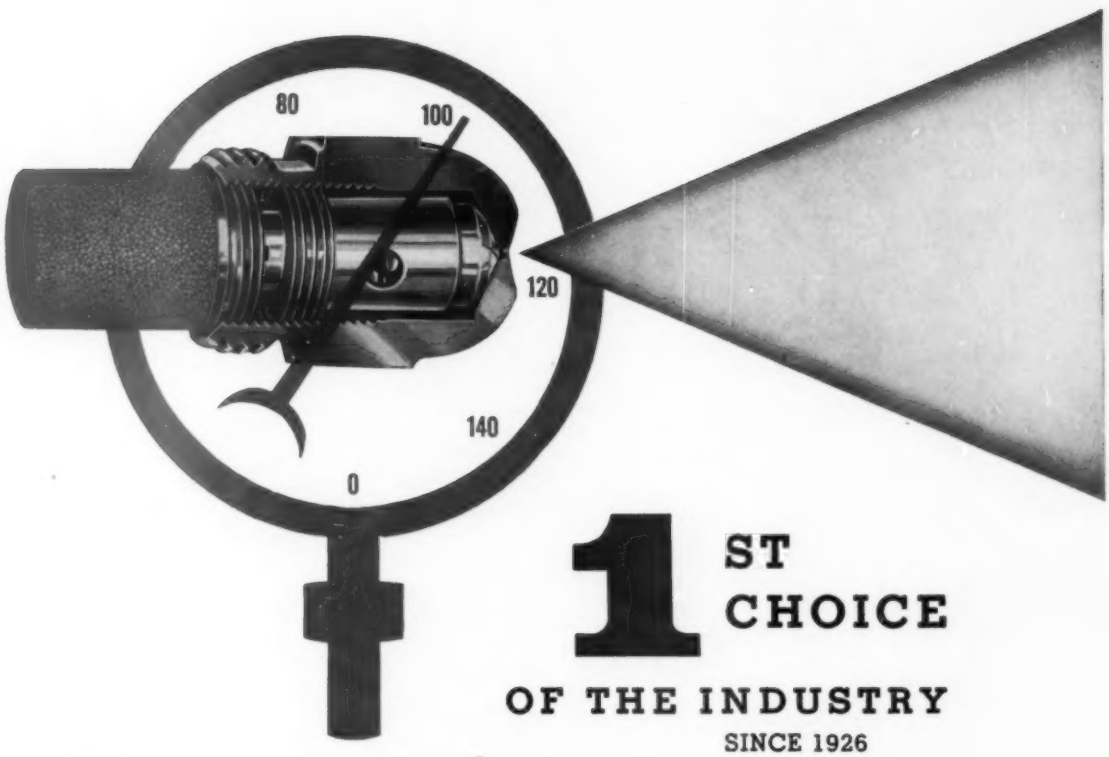
It is not only possible, but probable, because today only 28 states have any type of legislation against the sale of sub-standard brake fluid. And many of these laws have no teeth in them.

How about your state? These have laws that at least try to restrict the sale of bad fluids: Alaska, Alabama, Arkansas, California, Oklahoma, Pennsylvania, Connecticut, Delaware, District of Columbia, Florida, Georgia, Louisiana, Maine, Minnesota, Mississippi, New Jersey, New York, North Carolina, South Carolina, Tennessee, Texas, Virginia, Wisconsin, Rhode Island, Massachusetts, Kentucky, Arizona and Michigan.

The biggest problems with substandard fluids is a low boiling point. The brakes heat up, the fluid boils and vaporizes. As a vapor it can be compressed and you have no braking action. Then after the wreck when the cause is being hunted, the vapor has cooled and condensed and is back in fluid form again. Now the brakes work fine.

Chrysler Corporation engineers made a test in Detroit recently and found that 28% of the brake fluids sold there were unsafe! Of the 75 brands tested, 15 were found to be so substandard they would not pass any of the SAE rating formulas. And those that were below par were worse this time than when investigated five years ago.

There are three types of SAE-approved brake fluid: SAE 70 with "R-1," "R-2" and "R-3" endings. The R-3 fluid has the highest boiling point. Take a look at your fluid supply. Is it up to standard? Does it have the "SAE 70-R-2" approved label? And are you sure that it is made by a reputable maker. Remember there are 70 makes of inferior fluids on the market—all phantom killers!



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OF THE INDUSTRY

SINCE 1926

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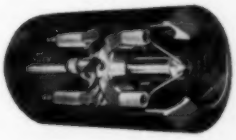
INDIVIDUALLY OIL TESTED

No matter how satisfactorily "test samples" may operate in the laboratory, reliable on-the-job, PERFORMANCE in the field is still the most positive and final of all nozzle tests. That's why, even after the most precise and carefully controlled manufacturing operations, each and every MONARCH nozzle is *individually* performance-tested on oil! Think of it! Every Monarch nozzle is individually tested for capacity, spray-angle, quality of spray and balance.

Why waste time and money "trying out" several ordinary nozzles just to find one good one if you can be assured of *results* the *first* time—*every time*—with 100% tested MONARCH nozzles?

Whether you are an Oil Burner Manufacturer, a Dealer or a Serviceman . . . You Can Be *Sure*—If it's a MONARCH NOZZLE!



AIR MIXING EQUIPMENT

COMBUSTION HEADS:
G-81-C Head is as easy to install as an ordinary Air Cone and Stabilizer. Produces high CO_2 with no "adjustments" to get out of order. For 3⅞" or 4" I. D. Air Tubes.

CONVENTIONAL:
Bladed Cone Rings and four blade Stabilizers for ordinary Air Tube replacement from 3½" to 8" I. D. Also special "Anti-Pulsation" equipment.

Also available: Flame Mirrors, "24" and "48" Nozzle Boxes, Racks, Wrenches, etc.

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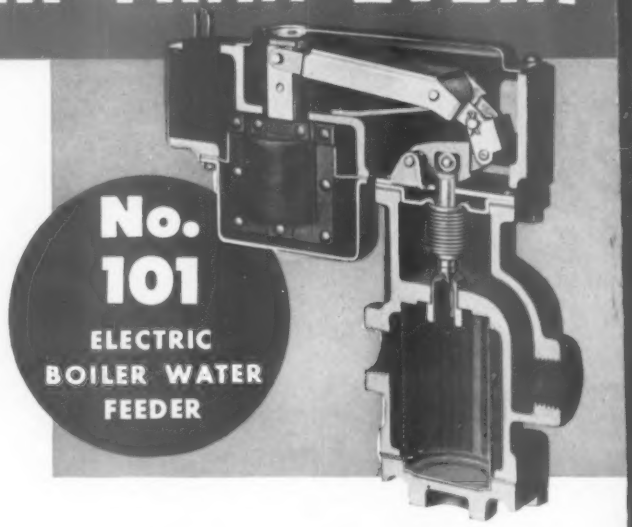
REMEMBER: It costs more to clean a nozzle than to replace with a new, precision, guaranteed-uniform Monarch Nozzle.

GOING STRONGER THAN EVER!

More and more of these Electric Water Feeders are being added to McDonnell Low Water Cut-offs

Here's why:



When you add this No. 101 Electric Water Feeder to a McDonnell No. 67 or 69 Series or any other McDonnell "twin switch" Low Water Cut-off, you kill two birds with one stone:

1 You give owner something he needs and likes—the fully automatic boiler water level control of a combined water feeder and low water cut-off.

2 You end unnecessary shutdowns, and the headaches they cause . . . end them because the No. 101 is right there to keep the boiler going through periods when otherwise the cut-off might stop the burner.

The story is simple: Every McDonnell No. 67 or 69 Series Cut-off is provided with an extra "feeder" switch that is practically shouting for a No. 101. Many No. 101's have been hooked up to these "feeder" switches on oil fired jobs. But despite the fact that they are going stronger every year, the big oil fired market has scarcely been touched.

That is one big field, but it is only half the story. There are also a large number of gas fired boilers, equipped with No. 67 and 69 Series cut-offs. These Cut-offs have been crying in vain for the No. 101 . . . but now comes the good news:

New model with transformer now takes care of the gas boilers

A new and equally effective electric feeder—No. 101-24V—has been developed for gas boilers having low voltage control circuits. It has a special low voltage coil and comes complete with a companion 24V transformer. Regulations prevented wiring line voltage into a terminal box having a low voltage circuit, but the 101-24V completely overcomes this objection by making *both* circuits low voltage.

Note the simplicity of piping and wiring the No. 101. See it on display at your wholesaler's. Ask for latest bulletin.

McDONNELL & MILLER, Inc.
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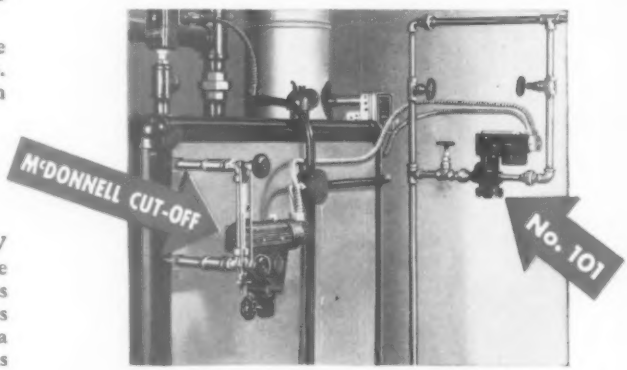
Doing One Thing Well

Ordinary Solenoid Valves won't do

The No. 101 was specially designed to perform essential functions that cannot be properly handled by a conventional solenoid valve! The No. 101 valve is spring loaded to give it powerful drip-tight closure against any city pressure, and a compound leverage system assures positive valve opening by the solenoid. A button for manual feeding—exclusive feature—facilitates filling, makeup, and testing. It has the same time-tested valve mechanism and built-in strainer found in other McDonnell Feeders. Straight-through ½ inch inlet and outlet pipe connections simplify installation.

No. 101 and 101-24V are for boilers up to 5000 sq. ft. capacity; maximum steam pressure, 25 psi; maximum water supply pressure, 150 psi.



Makes the boiler water level as automatic as the firing

Nothing could be simpler: Simply insert the No. 101 in any horizontal section of cold water piping above or below water level. Wire it into the "feeder" terminals of any McDonnell "twin switch" Cut Off.

Your Jobber Stocks Them

McDONNELL *Boiler Water Feeders*